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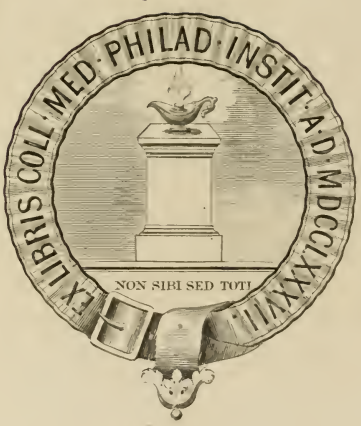
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THE

SOUTHERN JOURNAL

OF THE

Medical and Physical Sciences.

EDITED BY

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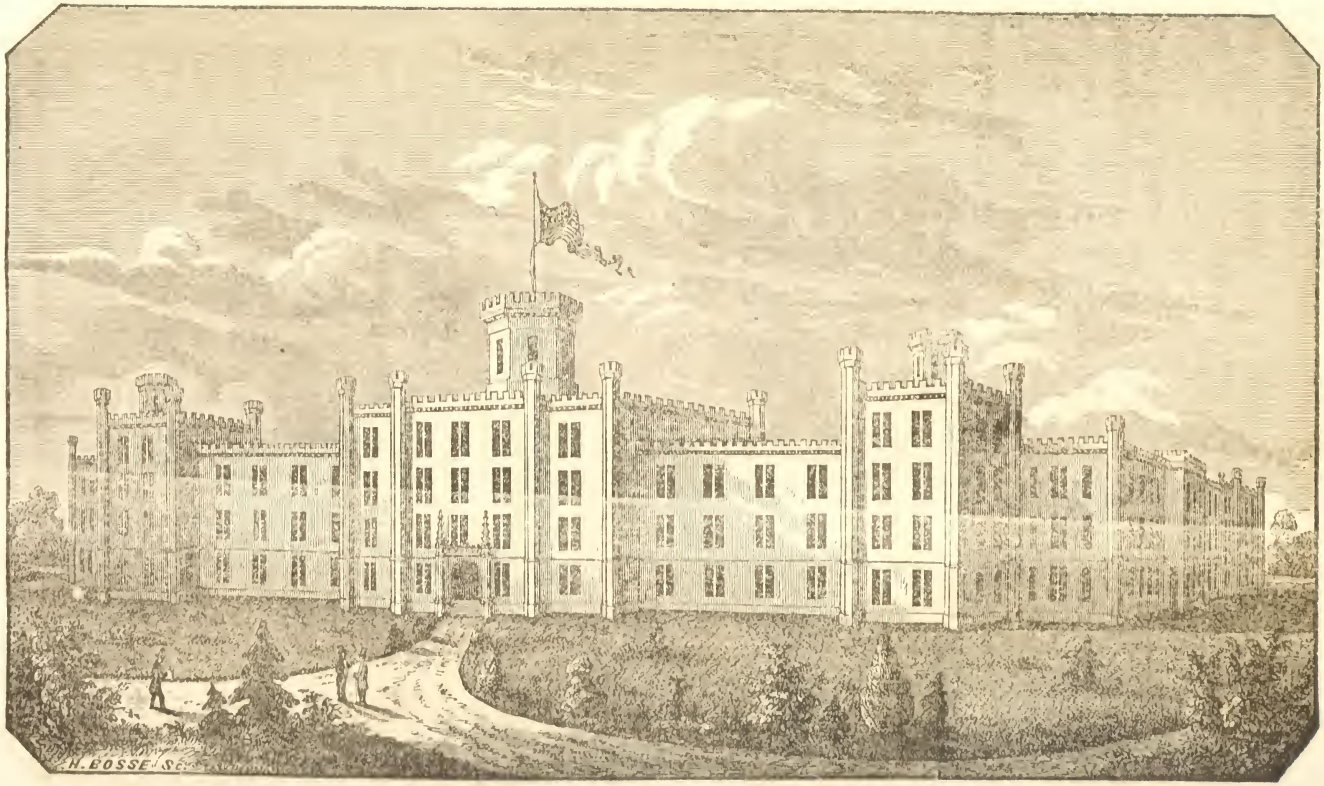

TENNESSEE HOSPITAL FOR THE INSANE, NEAR NASHVILLE.

THE

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Vol. 6. JULY, 1857. No. 1.

PART I.

ORIGINAL MEMOIRS AND CASES.

ART. I.—*Tennessee Hospital for the Insane.* From the Reports of DR. WM. A. CHEATHAM, Superintendent and Physician.

The original site of this Institution was immediately in the vicinity of the city of Nashville, in the building since converted into the State Hospital. In this original building, the Insane were provided for during a period of about ten years. Among the original Trustees we remember the names of James Woods, James McCombs, Rev. A. L. P. Green Robert B. Currey, Sen. and Rev. Philip Lindsley D.D. The first physician elected to take charge of the Institution was Dr. John D. Kelly—and the office of superintendent being separate and distinct from that of physician was filled by James Grizzard, Dr. Kelly was succeeded by Dr. John S. McNairy, under whose management it continued till the Legislature made provision for the erection of a new building. Dr. Wm. A. Cheatham was appointed by the Board, superintendent of the new Institution his term of office being fixed by law at eight years. We copy from his first biennial Report his account of the founding of this new Institution.

"In November, 1847, the philanthropist, Miss D. L. Dix, visited the capital of Tennessee. Finding the accommodations for the insane inadequate to their wants, she memorialized the Legislature upon the subject. The facts set forth, the assiduity and industry with which she depicted the sufferings of this unfortunate class, could have no other effect than to arouse the representatives of a generous people upon the subject. On the 5th day of February, 1848, an act was passed, establishing a "Hospital for the Insane," and empowering the Governor to appoint Commissioners to select and purchase a site, create a Superintendent and Architect, and do what was necessary to carry out, promptly, the wishes of the Legislature. The Governor appointed Alexander Allison, Lucius J. Polk, Andrew Ewing, T. T. Player, Samuel D. Morgan, John J. White, H. S. Frazier, D. S. Donelson, and J. J. B. Southall, Commissioners. These gentlemen purchased a beautiful farm, containing two hundred and fifty-five acres, in one of the healthiest localities in Tennessee, six miles from Nashville, on the Murfreesboro' turnpike road. The site being secured, Dr. John S. Young was appointed Superintendent, and Maj. A. Heiman, Architect of the buildings to be erected. Soon after the appointment of Dr. Young he visited various institutions in the northern and eastern States, for the purpose of acquiring necessary information. In August, 1848, he reported two plans to the Commissioners, drawn by Maj. Heiman. The first plan was taken from the New Jersey Hospital, at Trenton; the second, from Butler Asylum, at Providence, Rhode Island. Maj. Heiman made a slight change in the architectural style of the latter, although the internal arrangements are similar to the Butler Asylum. This institution was erected under the superintendence of Dr. Bell, of the McLean Hospital, near Boston; and the plan was copied by Dr. Bell, when on a visit to England, from the Asylum at Maidstone. This plan was adopted by the Commissioners. The style of architecture is the Castellated. The length of the building is three hundred and twenty feet front, east to west. The greatest breadth across the centre is ninety-eight feet. The centre building, and the extremities of the east and west wings, are four

stories high. The body of each wing is three stories high. The first floor is four feet above ground, which, descending towards the wings and rear, affords convenient entrances to a basement story eight feet in height. The first and second stories are twelve feet high, the third eleven feet, and the fourth ten feet in the clear. The building is embellished with fourteen octagonal towers, five feet and three inches in diameter, which are placed on the corners of the centre building; and wings rising eight feet above the battlements, which range from tower to tower around the whole building. These towers are used for various purposes. Two are chimneys; several are employed as conductors of the water from the roofs, and serve as ventilating shafts. From the centre building rises an octagonal tower, fifteen feet in diameter, which ascends twenty-five feet above the roof, terminating in battlements, and giving an elevation to the building of seventy feet. The rooms on the first floor of the centre building, are occupied for a parlor, reception room, library, and private dining room. On the second floor of centre building, physicians' private apartments, and a chastely furnished room for Miss Dix, whenever it shall comport with her convenience to visit the institution. On the third floor, apothecary's room, and chambers for quiet and convalescent patients, with their special attendants. The fourth floor is occupied for purposes similar to the third. There is, also, a neat and comfortable chapel attached to the centre building, thirty-six feet long by twenty-four feet wide, capable of seating one hundred and fifty persons, and entered from the main hall on the second floor. Each floor of the centre building has a transverse hall, and a large and convenient staircase. These halls are crossed at right angles, on each floor, by others running longitudinally ninety-two feet long and twelve feet wide, terminating in the corridors in the wards, which are of the same width. When the doors, which divide the centre building from the male and female wards, are open, a corridor is presented of two hundred and seventy-six feet in length, terminated at each end in a room occupied by attendants. From the corridor on each floor in the wards, the dining rooms, single bed rooms, bath rooms, water closets, clothes room, sitting rooms, dormit-

ories, etc., are entered. The single rooms are twelve by eight feet in size. The dining rooms have dumb waiters, which come up from the basement, (where the food is prepared,) by simple machinery, and supply the patients with their meals. The arrangement of the first, second and third floors, is precisely similar each containing thirty-eight rooms, including dining rooms, water closets, etc. In the fourth story, there are eighteen rooms; making, in all, one hundred and thirty-two rooms, exclusive of basement, which contains kitchens, bake room, ironing room and store rooms.

"The hospital is warmed by six hot air furnaces, two in the centre building and two in each wing. The heat is conveyed into the corridors of each floor by large registers, and into the rooms by means of transom sash over each door. The probability is, that an additional furnace will have to be placed in each wing. The range of the thermometor, in the upper wards, was not so high as desirable during the coldest weather of last winter. The building is ventilated by openings into flues, which pass out at the top of the building. These openings are five inches in diameter, and are near the top of each chamber.

"The building is supplied with cold and hot water in the following manner: The water, from two fine springs, is collected into a common reservoir, composed of brick and water-lime, and capable of holding seven thousand gallons. One of these springs is near the reservoir, while the other is three hundred yards distant, from which the water is conveyed in iron pipe, laid under ground. The water is forced from the reservoir, through iron pipe, into a large tank, holding four thousand gallons, in the dome of the building, by a force pump, worked by a steam engine. In the roof of the wings are two other tanks, each holding more than eight hundred gallons, which are filled from the main tank in the dome through connecting tubes. Immediately beneath each tank, in the wings, is a boiler, holding about one hundred and twenty gallons, in the basement of the building. Two perpendicular parallel tubes ascend from each boiler in the basement, to the tanks in the wings. One of the parallel tubes from the boiler, enters the tank near its bottom, the other several

inches above. The consequence is that, when the water is heated in the boiler, hot water ascends through the tube which enters the tank nearest the top, while cold water descends through the tube which enters the tank near the bottom, and the temperature of the water in the tank soon rises to that of the water in the boiler. From these tanks hot water is conveyed, by tubes, to the bath rooms, etc. In addition to these tanks, there are cisterns holding more than two hundred gallons, placed above each water closet, and contiguous to the bath rooms, from which the latter are supplied with cold water for shower and plunge baths, and the former with the means of carrying off all impurities. The tanks, in the wings, and small cisterns, are each supplied with balls and cocks, for the purpose of preventing overflow.

"The baths and water closets originally put up in the building, were, unfortunately, entrusted to persons profoundly ignorant of their intent and object, and their practical operation soon became a nuisance of such magnitude as to threaten seriously the health as well as to destroy the comfort, of the entire community of the establishment. From total ignorance of the construction of water closets, those erected soon filled the entire building with a horrible stench, almost insupportable, and calculated to breed epidemic distempers among those compelled to inhale an atmosphere constantly impregnated with the most nauseating and disgusting effluvia. Barrels of chloride of lime were in vain invoked to abate the nuisance.

"The baths were so miserably constructed that water fell in abundance wherever it was not needed; and from a failure to supply proper means of escape, it flooded the rooms; and they were finally abandoned in despair, and the patients were thus deprived of one of the most important remedial agents. We were, therefore, necessarily compelled to have the entire fixture and machinery of the baths and water closets removed from the building. Determining not to entrust their re-adjustment to incompetent hands, a correspondence was opened with Mr. Peter Gibson, of Cincinnati, under whose superintendence the water works of the asylum at Columbus, Ohio; Indianapolis, Indina;

Lexington and Hopkinsville, Kentucky, were so perfectly arranged. This gentleman entered into a contract with the undersigned, and sent on Mr. Andrew Henderson, an experienced, scientific and practical workman, who has just finished one-half of the building in a most approved style, completely remedying every objection. In a few weeks he will have completed the entire work. When completed, it will compare favorably with similar work in any institution.

"The waste water from the building is thus disposed of. The waste pipes, from the bath rooms and water closets of each wing, are discharged into a large perpendicular soil pipe, which empties into an underground sewer, lined with brick, which, approaching its fellow from the opposite wing, terminates with it in a common sewer three hundred feet from the main building, through which the water is conducted two hundred yards, to a branch. The water pipes from the roof terminate in cedar boxes laid under ground, which communicating with the lateral sewers, during heavy rains, furnish a torrent of water which ensures the carrying off of all impurities.

"On the 1st of March, 1852, the undersigned entered upon the duties of Superintendent and Physician of the "Tennessee Hospital for the Insane." At that time the patients were in the old building in the vicinity of Nashville. The unfinished state of the new hospital prevented him from occupying it at once. After remaining at the old building a few weeks, and finding that it would be impossible to accomplish anything at the new, without being on the premises, he determined to occupy it, notwithstanding there was really no part in readiness to receive the patients. On the 19th of April the patients were removed. This was done by chartering stages and an omnibus for the female patients, and conveying the male patients by railroad, to within one mile of the building, and walking the remainder of the distance. The removal was effected without the slightest accident or difficulty, and with no noise or excitement of any kind calculated to attract attention.

In 1854 appropriations were made for completing the Hospital Buildings. This consisted in the construction of an east and

west wing each one hundred and forty-four feet long, and forty feet broad, thus giving to the whole a front of four hundred and nine feet. We omit any further description of this noble charity of the State, and pass to the treatment adopted, which we extract from the Superintendents second Report page 40—with which we conclude this notice.

"It is commonly expected that the reports of Superintendents of Hospitals for the insane, to the Legislature, will contain some account of the principles of practice regulating the treatment of insanity. In many reports a number of pages is devoted to this topic, but while the taste that suggests this lengthy discussion of treatment in such papers is extremely questionable—often pronounced unequivocally bad—and as the good to result from it is not very obvious, we shall not burden this Report with any dilated reflections upon the specical management of insanity. But as the friends of the subjects of insanity labor under some very erroneous notions concerning the best means to be pursued in the beginning of acute mania, and often, without the advice of physicians, carry out these notions in practice to the permanent injury of the patient, we have thought the occasion of a public report not an improper one to diffuse among the people correct views upon the subject, derived from the highest sources, and endorsed by our own very limited experience. Our labor in hunting up authorities has been anticipated by Dr. PLINY EARLE, an accomplished and learned physician, and formerly Superintendent and Physician of the Bloomingdale Asylum in the vicinity of the city of New York. Dr. EARLE shows very conclusively that the great source of error in the early treatment of insanity had its origin in the peculiar theory of Dr. RUSH, the greatest of American physicians. The writings of this eminent man have been sought and studied by a larger number of American physicians than those of all other medical writers put together. Whatever concerning medicine becomes a general belief among the people. If an erroneous belief, it will be corrected by physicians, early, by medical observers ; but having taken root among the people it will descend traditionally through many generations.

"Now, Dr. RUSH was an advocate, and a forcible and eloquent

one, of active blood-letting in all of the generally recognized forms of mania, and while his views have long since, upon this subject, become obsolete with physicians, yet the people adhere with surprising tenacity, and as soon as a patient is seized with mania they become clamorous for him to lose blood. It is with a view to correct this tradition that we avail ourself of the collection of authorities cited by Dr. EARLE:

1. "I trust that I may be allowed, without offence, to call the attention of my professional brethren who are so partial to the depletory treatment advocated by RUSH and certain English writers, to the important fact that, in no hospital for the insane in New England—and the same may be the case in many other institutions in our country—is this treatment now used. I can not but think that, if this fact were generally known it would lead them to a thorough revision of the grounds of their treatment, or, at least, would render them more cautious how they practice those enormous abstractions of blood which so often lay the foundation of hopeless fatuity, or a tedious convalescence.—*Dr. I. Ray, p.* 25 *of the Third Annual Report of the Maine Insane Hospital.*

"General bleeding, which was once considered indispensable in acute mania, was utterly discarded forty years ago, by PINEL, is practiced with increasing caution and distrust by the English, and is now seldom used in any American hospital."—*Ibid, p.* 5–8, *of the Fifth Annual Report of the Maine Insane Hospital.*

2. "Many physicians, I am confident, take it for granted that inflammation is necessarily present, in all cases of acute mania, and the lancet follows the opinion promptly, perhaps repeatedly. It is not insisted that general bleeding is *never* necessary, but I do believe very few cases require it, and thus more injury is done, in most cases, to the powers of the brain, than by any other active remedy usually resorted to. Temporary, or permanent dementia, often follows this depletion. As arterial action is always unequal, local, instead of general bloodletting would be as efficient, if not more so, and in my opinion, more safe."—*Dr. James Bates, Superintendent of Maine Insane Hospital, p.* 40, *of Report for* 1846.

3. "Each year that I have passed in this extensive field, has served to diminish my confidence in an active medical treatment of almost every form of disease of the mind, and to increase my reliance upon moral means. No individual at the head of an insane institution would now think of combating any form of insanity with the depletory and reducing means once regarded as indispensable. The practice of bleedings, violent purgatives, emetics, vesicatives and derivatives, has passed away before the light of experience."—*Dr. L. V. Bell, Report of McLean Asylum, for* 1841, *p.* 22.

4. "All agree that depletion, by which I would be understood general bleeding and active cathartics, is not favorable in insanity, as it rarely affords more than temporary relief, and frequently produces injurious effects. When bloodletting has been employed freely and frequently in active mania, the only form of insanity in which it is commonly used to excess, if the excitement for a short period, an hour or two, abates, it is generally renewed with increased violence, and under circumstances far less favorable for the benefit of other remedies. The indications for active depletion are usually the effect and not the cause of excitement; they grow out of the perpetual activity of the physical and mental powers, and are not the cause of it. By this course of remedies the strength and energy of the system is reduced, the nervous system is

rendered more susceptible, and the actual violence of the symptoms is increased. The effect of great loss of blood is often to produce pain in the head, a sense of stricture as if a fillet were tied around it tightly, ringing in the ears and noises in the head, which lead to false perceptions of sound, and illusions liable to result in permanent insanity. It is said that animals bled to death have congestion of blood in the vessels of the head. The last rush of blood seems to be to this citadel of life. It is a fact, also, that I have noticed for many years, that affections of the heart are produced by excessive loss of blood in any way. An eminent practitioner of medicine once informed me that when he had bled cases of severe and painful neuralgia, he had repeatedly found palsy of the side affected with the disease on his next visit.

"The effect of local bleeding is more favorable, and may sometimes procure relief from distressing symptoms, and afford an abatement of excitement that may give other remedies a better opportunity to produce good effects. But even local bleeding can rarely be relied upon to cure insanity. It is usually prescribed to procure present relief, rather than with the expectation of permanent benefit. Where there is a redness of the eye, great headache, much heat, and throbbing of the carotid and temporal arteries, it may not be amiss to use local depletion, while at the same time, every effort should be made to promote the circulation of blood in the extremities, and the quantity abstracted at one time should not be very great.

"In some cases I have seen great excitement followed by a state of apparent dementia, almost immediately on free bloodletting. Sometime ago, a female, aged about fifty, came under my care in the most violent mania. The remedies prescribed for her had but little effect, and it was resolved to bleed her freely. Sixteen or eighteen ounces of blood were taken from her arm. She became dull almost immediately, and remained so for a long time before she gained activity of mind, after which her excitement became as bad as ever, and other remedies finally relieved her.

"A vigorous, athletic man, aged fifty-five, was subject to the most violent paroxysms of periodical insanity. He had been under my care repeatedly, and remedies had but little effect in diminishing his excitement or abridging the length of his paroxysms. One day in the extreme of one of his excitements, he urged me to bleed him, and presented his arm for the purpose, held by the other hand so as to swell the veins to an inordinate size. I had him bled freely, principally to see what would be the effect of copious depletion in such a state of excitement. Within a few hours he seemed like an idiot, but the excitement was not essentially diminished. His mind was entirely chaotic for a number of days, the paroxysm was prolonged to an unusual extent, and its violence, on the whole, was not lessened.

"Some years ago, a shipmaster came under my care who had been bled about sixteen ounces, from twenty to thirty times in the course of five or six weeks. He looked pale and bloodless, was tremulous and weak, but his excitement was not essentially abated. He afterwards recovered under different treatment, and has had no return of the disease.

"A patient is now under my care who was bled in the outset of his disease, four or five pounds, at as many different times. His body appeared bloodless, and his mind chaotic in the extreme. He has become more quiet, but all our efforts have failed of removing his insanity"—*Dr. Samuel B Woodward, p.* 71, *Twelfth Annual Report of the State Lunatic Hospital, at Worcester, Mass.*

5. "Regard should be had to the cause of the insanity. If occasioned by a blow, or other direct physical injury of the head, or from sudden and violent mental emotion, while in good health, free depletion by bleeding and active cathartics are useful, and often indispensable. But such cases are seldom seen in lunatic hospitals. We have rarely considered it advisable to have recourse to general bleeding at this institution. Occasionally, when there is much cerebral excitement, we have resorted to topical bleeding, but more frequently,

even in such cases, we derive benefit from placing the feet in warm water, the application of cold to the head, and the free movement of the bowels by laxatives."—*Dr. A. Brigham, p.* 32, *of the Eighteenth Annual Report of the Retreat for the Insane, at Hartford.*

6. "Of acute mania, we had thirty-eight cases at the commencement of the year, and have admitted one hundred and sixteen during the year. Many came to us in a perfect fury of excitement, raving, struggling and resisting, exhausted by the journey, and having taken no food or sleep for days.

"In no cases have we found local or general bleedings admissible, but, on the contrary, nutritious diet and brandy punch are generally demanded. We give from half a pint to twelve ounces of brandy a day, and continue it for weeks, as we do in mania-a-potu, the diseases resembling each other in many of their symptoms and post mortem appearances, and admitting of, if not demanding similar treatment."—*Dr. N. D. Benedict, pp.* 22, 23, *of Eighth Annual Report of the New York State Lunatic Asylum.*

7 "With great deference, I have here ventured to reverse the order of Dr. Rush, who says 'the cause of madness is seated primarily in the bloodvessels of the brain.' This theory, I apprehend, has too often, in incipient insanity, led young practitioners into the fatal error of treating, by bold depletion, *irritation* for *inflammation*, than which, as a general rule, nothing is more prejudical to the radical cure of the patient."—*Dr. Samuel White, Proprietor of the Hudson Lunatic Asylum, p.* 5 *of an "Address on Insanity, before the New York State Medical Society.*

8. "There is one evil of so frequent occurrence, and so mischievous in its character, that we cannot, even at the risk of being deemed presumptious, refrain longer from raising our voice against it, and calling upon physicians throughout the commonwealth, to halt in a course which but too often aggravates, and that in a ten-fold degree, the horrors of a malady for the relief of which their interposition has been sought. It rarely happens that a patient is brought here, after having previously been under the care of a medical practitioner, in regard to whom it cannot be said that he has been '*well bled, blistered and purged.*' So indiscriminate and universal is this practice, and to such an extent is it frequently prosecuted, that it numbers amongst its *victims* those laboring under every form, degree and duration of insanity. But those who are most exposed to it, are individuals afflicted with active mania. Here the practitioner rarely fails to attribute the usual consequences which result from *nervous* excitement, in inordinate, *arterial* action. The incessant ravings, extreme restlessness, flushed countenance, heat of skin, excited pulse, distended bloodvessels, and almost supernatural muscular power, which in such cases are but *effects*, are, unfortunately, for want of proper discrimination, viewed as *symptoms* of the disease, and the unhappy patient is forthwith subjected to a course of *active depletion*, with *blisters*, designed to act as revulsions, which invariably increase the evils they were intended to relieve. I would, by no means, assert that cases never occur in which a free use of the lancet, and other depletory measures, are not absolutely required, for the reverse is the fact; but such cases are, beyond question, comparatively rare, whilst the practice complained of is, as before remarked, almost universal."—*Dr. Francis T Stribling, pp.* 31, 32, *of the Annual Report of the Western Lunatic Asylum, Virginia, for* 1842.

9. "Bleeding quiets the patient temporarily, but the excitement returns with greater fury, and the system is less able to bear it than before. So far as I have observed the practice, bleeding does not accomplish the desired object, but the contrary, for it impoverishes the blood, reduces the strength of the patient, and thereby renders the nervous system more excitable. * * * Raving mania can be much more permanently controlled by the use of the warm bath, cold applications to the head, warm footbaths, mild cathartics, and in some cases, by nauseants."—*Dr. R. J. Patterson, p.* 18, *of the Annual Report of the Indiana Hospital for the Insane, for* 1849.

10. "Venesection is very rarely resorted to, (by American physicians to the insane,) and I am sure never to quiet the ravings of the maniac, to tranquilize the agitation of the less furious, or to bring sleep to the wakeful lunatic. Fatal, indeed, it seems to me, to the intellect, if not to the body of the patient, if the mental excitement, the general indications of nervous disorder, were to be regarded as so many demands for depletory measures. I would particularly insist that no practitioner suffer himself to be misled by the degree of mental disturbance or emotional disorder, however boisterously it may be manifested, into the hope that copious and active depletion will meet the indications. * * I would recommend less loss of blood, where indicated at all, in the case of a lunatic, than in a sane patient, other things being equal. To bleed very copiously for pure insanity, even in its acute state, can have no good effect upon the mental condition, while it expends the vital forces, which are to be taxed, in all probability, to their utmost extent, before the disease is cured, and must suffer from a loss of the vital fluid. We would not be understood as proscribing venesection in all cases of lunacy, but are of opinion that its use should be confined, as in other complaints, to meet special symptoms.

"To local bleedings there can not be the same objections urged as against venesection. It does not produce the same shock upon the system, nor so much lower the vital forces; but even this is by no means to be used merely because a man is mad."—*Dr. John R. Allen, Superintendent of the Kentucky State Lunatic Asylum, in the American Journal of Insanity, Volume 6, pp.* 274–5.

ART. II.—*New cure for Intermittent Fever.* Reported to the Semi-Annual Session of the East Tennessee Medical Society, April, 1857. By R. H. HODSDEN, M.D., Sevierville, Tenn.

While travelling west nearly two years ago, I fell in company with a gentleman who resided in Mississippi, and had there suffered with intermitting fever for a long term of years, (perhaps ten) who gave me a history of his sufferings, his remedies, and final cure. He had suffered mostly with the tertian form, and pursued the quinine course for many years, which had the effect of suspending the disease for a few days, and sometimes a few weeks, until he became apparently chlorotic in habit. He was advised by some person to take prepared chalk and strong vinegar in tablespoonful portions, to be stirred up and taken while effervescing, about one hour before the cold stage was expected to come on, and repeated as at first just before the next paroxysm was expected to take place. The first portion stopped the disease effectually. His skin soon changed its appearance, from a sallow hue, to a clear healthy color.

On my return home, I was called to visit a quotidian form of intermitting fever. I treated it with the usual preparatory

remedies and quinine, which only suspended the disease a few days at the time, and after three suspensions with the quinine, and still a return of the disease, I thought of the chalk and vinegar, which I administered, and an effectual cure was the result.

I afterwards gave it to a lady in the quotidian form, who had been suffering with but a slight suspension, for twelve months prior to the time I saw her. It stopped the disease immediately, and has not returned since.

I have treated five other cases with the same remedy—four of them successfully. In the fifth case it failed, as that patient would not take more than half the quantity ordered.

If the remedy should succeed in other hands as it has done with me, it will prove a valuable acquisition in intermitting fever especially the chronic form of that disease, though it may never supersede quinine in the cure of cases of recent occurrence.

It needs no preparatory remedies like the quinine. It neither affects the head, eyes, nor ears. It acts as a cathartic, and has no doubt another action on the system not yet understood.

The quantity of chalk recommended (a tablespoonful of each) when decomposed by the acetic acid would probably form about one drachm of the acetate of lime.

ART. III.—*Medical Reports.* By J. P. EVANS, M.D., Cherokee Nation West.

Torpid liver with general erethism.—Oct. 30th.—Wiley Forrester, aged about twenty-five years, recently from California, had been for two weeks, or more, in a slight febrile condition, attended with dry cough, loss of appetite, and constipated bowels. Alvine evacuations had taken place tardily and in small quantity. Quinine had been given, but had failed to remove the morbid condition. Saw him early in the night.

℞. Blue pill mass, 10 grs. to-night, and the same forty-eight hours afterwards, ipecac, 1 gr., carb. soda, 5 grs., Mixed. Dose. Three times a day. He recovered rapidly.

Tonsillitis—Quinsy.—Nov. 1st, 1852.—James Choteau, aged about twenty-five years, (French and Osage,) being thirty miles from me, had been sick about a week.

Found him with a small irritable pulse, and some tumefaction of the anterior superior portion of the neck, extending laterally to the angles of the inferior maxillary. According to the statement of himself and wife, he had not been able to swallow as much as a tablespoonful of fluid, of any kind, for four days. I could not explore the internal surface of the throat; for he could not (or would not) open his mouth sufficiently wide to admit of the introduction of a spoon-handle, or other implement, by which the tongue could have been depressed. During the last twenty-four hours, an odoriferous cataplasm of recent *stercus bovillus*, had been unremittingly and extensively applied, which emitted "the rankest compound of villianous smell, that ever offended nostril." For one potent and obvious reason, its removal forthwith, was ordered; and as no internal remedy could be administered, the following was applied:

℞. A plaster of the ointment of cantharides over the whole anterior and lateral portions of the neck, reaching below to the clavicles, and above to the ears and chin.

The power of deglutition returned as soon as vesication was fully produced. The patient wept, and complained bitterly, during the process of blistering, and begged for the removal of the vesicant; but was highly gratified with the result, on making an effort to swallow some chicken soup.

℞. Ipecac . . . . 15 grs.
S. morphine . . . ½ gr.
Water . . . . f℥ij. A teaspoonful every two or three hours. Also directed a decoction of capsicum, as a gargle.

The disease subsided without suppuration. I have, in several cases of similar aspect, found blistering to be a speedy and effectual remedy.

Intermittent Fever, with disease of lungs.—Nov. 1st.—John Vance, aged about sixty years, had resided on (or near) the river Neosho, on the margin of an extensive alluvial bottom; during

that time he had frequently suffered with endemial fevers. He had, for a year, or more, been afflicted with a troublesome cough, which was somewhat copious. Arrived early in the night.

Found him with febrile excitement; cough; pain in the left side of the chest and right lumbar region; greatly emaciated; costive. On inquiry, found that the febrile phenomena occurred periodically, at tertian periods.

℞. Subchloride of mercury, 10 grs., to be followed the next morning by an infusion of senna; S. quinine, 25 grs., divided into eight portions. One every two hours, commencing early to-morrow night.

Ipecac	1 gr.
Carb. soda	one-tenth gr.

Dose. To be taken three or four times a day.

I did not see him again; but learned that he improved rapidly for two weeks; but at the expiration of that period of time, he relapsed, and died in a few days.

Chronic Articular Rheumatism.—Nov. 1st.—Jane Wilkinson, aged twenty-five years, had first been afflicted with acute rheumatism, which had become chronic, with enlargement of the knee-joints, wrists and phalangeal articulations. At the time of my visit she was also afflicted with a tertian ague.

℞. S. quinine, 20 grs., in four portions; all to be taken during the latter part of the intermission. Then,

Tinc. colchicum seeds . . .	5 parts.
" opium	1 part, Mixed.

Thirty drops, with carbonate of magnesia, every three hours, Whenever nausea or catharsis resulted from its use, it was to be left off, until such effect subsided. I did not again see her for several months, as she resided far from me, (near the two preceding subjects.) She afterwards informed me that the jugulation of the ague mitigated her sufferings considerably, and that still further benefit resulted from the operation of the colchicum mixture, which was soon exhausted; that she could not conveniently send to me for more, and the case had again been left to nature.

She has since regained her health, under the management, it

is said, of an intelligent lady residing in the neighborhood. Perhaps the disease may have spontaneously subsided, aided by a train of favorable circumstances not appreciated by the patient or her friends, and will serve as a practical illustration of the deceitfulness of the maxim—"*Post hoc, ergo propter hoc.*"

Masked Intermittent, with Abdominal Neuralgia.—Nov. 2nd. —Lucy, a young negro woman, belonging to Mr. John Ross, the Principal Chief; the subject of a preceeding case designated as "Threatened abortion." According to her account, she had, at the time of my visit, gone five weeks over her full time of gestation. Three or four days before I was called, she had been attacked with distressing pains in the umbilical and right iliac regions, which had continued ever since, with remissions in violence in forenoons, during which periods she had had chilly sensations. Saw her in the afternoon. Found her apparently in great pain; pulse small and frequent; exquisite tenderness on slight pressure over any part of the abdomen; costive; mammæ full.

℞. Sulph. morph., ¼ gr., immediately, and ⅛ gr. every two hours, as long as pain demanded. Hot fomentations to the abdomen, at the same time were directed,—

Subchloride of mercury, 10 grs., early in the morning; to be followed by castor oil at 10 o'clock, unless the calomel acted before that time,—

Sulph. quinine, 15 grs., in three portions. One to be taken every hour, commencing early in the morning of the day after taking the calomel.

The directions were followed, and the disease was arrested. About a week afterwards, she was delivered of a living and healthy child.

Typhoid Pneumonia, complicated with Asthma.—Nov. 5th.—Wm. McIntosh, a native methodist preacher, aged about fifty-five years, obnoxious to occasional attacks of asthma, had been sick two days previous to my visit. The attack was ushered in by chilly sensations, which were followed by febrile excitement; pain in the left side of the thorax, and cough, with bloody expectoration.

Saw him first in the afternoon, and found him with a hot dry surface, head-ache, pain in the left side of the chest, harrassing cough, a copious muco-sanguineous expectoration, and a small frequent pulse. He informed me that the chill had occured regularly every day; that he felt much better of mornings.

℞. Sulph. quinine . . . . . 25 grs.
Dover's powder . . . . . 36 grs. Mixed, and divided into six portions. One every three hours.

Nov. 7th. The periodic fever seemed to have been allayed; the skin and pulse were natural; the sputa were almost destitute of blood; but a troublesome cough, and a slight head-ache remained.

℞. Ipecacuanha . . . . . 8 grs.
Paregoric . . . . . f℥ij.
Syrup . . . . . f℥vi.
Bicarb. soda . . . . . 40 grs. Mixed.
A teaspoonful every two or three hours. As he was costive, fifteen grains of the subchloride of mercury were directed to be taken the next morning, unless he appeared to be considerably better. A blistering plaster was applied to the seat of pain.

9th. Yesterday the patient, when in a state of perspiration, walked out in the yard several times, in a cold north wind, whilst the calomel was operating. The depressing effect of cold, or purgation, or both together, had greatly changed the aspect of the case. A non-professional observer, would have supposed him to be in the article of death. But he was an old acquaintance, and I recollected that he was an asthmatic. The breathing was rapid, difficult, and attended with a stridulous ronchus: pulse small, aud exceedingly frequent; the countenance pale and anxious; the surface bathed in a clammy perspiration; pain in the side, (which had subsided under vessication,) had returned; he moaned incessantly, and spoke with difficulty.

℞. Opium . . . . . 1 gr.
Subchloride of mercury . . . 2 grs. To be taken every three hours. Reapplied the blistering plaster.

In an hour the patient rallied, and expressed himself as being greatly relieved. The breathing had become less frequent and

laborious, the countenance more severe, the pain in the side measurably allayed, and the cough lessened. My object now was to superinduce ptyalism. Directed that if considerable stupor should supervene, the intervals of medication should be lengthened to four, five, or even six hours.

11th. Found the patient evidently convalescing, and at the same time complaining of his gums, a spongy condition of which with a copious flow of saliva, and a metallic odor of the breath, attested the presence of ptyalism. The sputa had lost their tenacious and sanguinious characters, and the pulse its frequency. In about one week he visited me in town, (five or six miles.) A mild expectorant, of syrup of squill and paregoric, was furnished. No relapse.

ART. IV.—*Hemorrhage resulting from the extraction of Teeth.* By S. HORINE, Dental Surgeon, Knoxville, Tenn.

Secondary hemorrhage, arising from the extraction of teeth, usually commences from twelve to twenty minutes after the operation; and those cases where it takes place, rarely bleed much at the time the teeth are extracted. There are two causes for this, independant of a constitutional diathesis—the first is, the manner in which the artery is broken off where it enters the *canula* of the root of the tooth; the arteries being composed of three coats, each possessing different properties, namely, a *serous* coat, being a thin smooth membrane possessing no muscular power, the *fibrous* possessing contractile, and the *cellular* elactic properties. Where the artery is broken, if the fibrous and cellular coats should not break at the same place where the serous does, but should be broken further up, is it not reasonable to suppose that the latter extending beyond the former, these do not possess sufficient power to close the mouth of the serous coat, which is only temporarily closed by coagulation of blood within the cavity formerly occupied by the root of the tooth. I have never known a case where hemorrhage has taken place from more than one cavity of the root of a tooth.

The second cause arises from bending the body or heavy lift-

ing, causing a sudden rush of blood to the head, the contractile power of the artery not being sufficient to prevent hemorrhage taking place.

Treatment.—Where it is induced by the last cause, the treatment is simple, only requiring the cavity to be filled with a pledget of cotton saturated with the tincture of opium, and the patient to lie down with his head as low or lower than the body, and remain quiet a few hours. After bleeding for some time, and the patient becomes weak, I regard *position* assisting more in arresting hemorrhages (with the exception of hemorrhage of the lungs) than all the internal remedies usually prescribed. The treatment in the first case should be more active, the cavity should be syringed out with diluted acetic acid, to remove all the coagulated blood, then take some cotton and make a pledget about the the size of the cavity and saturate in creasote, and then dip it in pulverized sulphate of copper, and introduce it in the cavity with any suitable instrument, with considerable pressure, then apply another pledget over it to prevent in a certain degree the creasote from burning the cheeks and tongue.

ART. V.—*Case of Abdominal Abscess.* By DR. JAMES RODGERS, of Knoxville, Tenn. Read before the East Tennessee Medical Society, April, 1857.

Miss Susan B., aged 19, was attacked about the 16th of January with severe pain in the region of the stomach and bowels, (most severe, as we were informed, around the umbilicus) which continued with but little cessation until the 21st, when I was called on to prescribe for the case. From the information I received, I was led to believe the symptoms were produced by a suppression of the catamenia, and prescribed accordingly. On the 22nd, I visited the patient, and found her sitting in a chair before the fire; which position she had occupied during the whole of the preceeding night, the pain being much increased by an attempt to assume a recumbent posture. At this time her pulse was full and strong and numbered 130 per minute; surface dry and hot; tongue dry, and constantly calling for water. She

was bled freely, say 20 to 30 ounces until the volume of the pulse was considerably reduced and the pain somewhat mitigated, after which she was placed in bed, and ordered to have calomel, ipecac and opium, followed in a few hours, by castor oil and turpentine, a large lye poultice was applied to the abdomen, and a blister over the epigastric region. Neutral mixture and nitre were administered every hour to allay febrile excitement, which continued some ten or twelve days, notwithstanding the antiphlogistic course was adopted and the daily use of aperients with an occasional mercurial, followed by anodynes at night. The blister gave relief from all epigastric distress, but the abdomen was still slightly tender on pressure, particularly at the umbilical region. About the 23rd of February, after having been up at the chamber a short time, the nurses discovered a large quantity of pus on the floor, and on laying her in bed, they discovered it was still flowing from the umbilicus. I was immediately summoned to see the case, and on my arrival I proceeded to examine the extent of the abscess, which to my great surprise was very extensive (not having suspected the existence of an abscess in that region,) I was at a loss to determine from whence so much pus came. On further examination I found a cavity, extending from the umbilicus to the symphisis pubis, and to the lumbar and iliac regions on either side, into which a probe could be passed its full length without giving the slightest pain. From this cavity there were drawn for the next succeeding ten days, from 4 to 24 ounces of pus, per day. The first three or four days the discharge was of a greenish yellow, about the consistence of gruel or molasses, and had an odor resembling sulphuretted hydrogen gas, so much so, that at one time, while discharging, the patient remarked, she smelled rotten eggs. The character of the discharge soon underwent a considerable change becoming less offensive, and more healthful in color, gradually diminishing in quantity until about the 1st of April, when it entirely ceased.

From the bursting of the abscess, and while discharging, the strength of the patient was sustained by tonics, viz: carb. iron, columbo, quinine, barks and wine, with sulph. acid, &c, She

also had occasional doses of aperients to keep the bowels free. Anodynes were frequently given at night to procure rest. A compress and tight bandage were also used during the treatment to approximate the walls of the cavity. Under this general course of treatment, the patient has recovered her flesh and strength, and is now able to go about as usual.

Some may suppose that I over-estimate the quantity of matter discharged, when I state that it must have been from *two to three gallons.* All who were present at the bursting of the abscess say, that in their opinion there were from half a gallon to three quarts. After that time, the quantity was particularly noted. It was received in a common sized tea-cup, holding about four ounces, and for ten days I drew off from one to six tea-cupfuls, making not less than four, nor more than twenty-four ounces, at any one time during that period, which, added to the quantity first discharged, would come up to the estimate. The cavity was explored carefully, with a view to determine, not only its extent, but its exact locality. I believe the peritoneum to have been entirely dissected loose, for the space of six or eight inches around the umbilicus, but I could not at any time discover any connection with the cavity of the abdomen, and am somewhat at a loss to know from whence so large a quantity of matter came, unless the walls of the cavity, became a pus-secreting surface.

It was suggested by a physician of much experience, that in all probability, this was a case of psoas abscess, as he had seen cases of that kind, seek, and find their outlet at the umbilicus.

The case being new, and the suggestion one that had not presented itself to my mind, I immediately instituted a careful examination with the view of determining that point, and must say, if such was the fact, I was not able to discover any pain, soreness nor any wasting of that muscle, that could indicate it as the original site of the disease. I am of the opinion that the case was one of abscess of the anterior walls of the abdomen, inducing the partial destruction of the oblique and transverse muscles.

PART II.

MONTHLY MEDICAL RECORD.

OBSTETRICS.

1. *Vesico-Vaginal Fistula.—A Report read before the Medical Society of the State of Georgia, at their Annual Meeting, at Augusta, April 8th*, 1857. By P. M. Kollock, M.D., Prof. of Obstetrics and Diseases of Women and Children, in the Savannah Medical College. (Continued.)

America, the land of progress in Science and in Art, has not been behind-hand in this instance, and the superiority of American ingenuity and originality are, as usual, prominent. As Americans—as citizens of the Southern section of our confederacy, we can assert with truth, and with an honest pride, that in no part of the world, has so much been done in the way of really practical improvement in this branch of Operative Surgery, as by the American surgeons of the South. The records of American Surgery of the last thirty years, contain a comparatively small number of reported cases. As it is probable that cases successfully treated are almost the only ones reported, it cannot be doubted, that a considerably large number have occurred, which have been abandoned as incurable, of which the medical public have heard nothing.

The treatment of the reported cases has varied according to the genius and surgical skill of those into whose hands they have fallen. The names which have been most prominently associated with operations for the cure of this disease, are those of Pancoast, of Philadelphia; Hayward, of Boston; Mettauer, of Virginia; Sims, of New York, formerly of Alabama; and Bozeman, of Montgomery, Alabama. All these surgeons have adopted the treatment by *suture*—the edges of the fistula having been first freshened with the knife. The method of each varies in some particulars from that of the others.

The peculiarity of Dr. Pancoast's method consists in shaping the lips of the fistula in such a manner that one is dovetailed into the other, and secured by sutures of silk.

Dr. Hayward, after introducing into the urethra a large whalebone bougie, in order to bring the fistula more within reach, removes with a knife the edges of the opening all around to the distance of one line, then dissects up the mucous membrane of the vagina to the distance of three lines, in order to present a larger surface for union, and "to prevent the necessity of carrying the needles through the bladder." The needles were then introduced "about one-third of an inch from the edge of the wound, through the membrane of the vagina and the cellular membrane beneath, and brought out at the same distance on the other side." The threads were then "tightly tied," and left about three inches in length. The catheter was introduced and the patient placed in bed on her side, and directed to live on thin arrowroot, milk and water, and solution of gum arabic.

Dr. Hayward reports, in the Boston Medical and Surgical Journal, for 1851, that he has "operated twenty-six times on nine patients—on one six times, another five, two twice, and five once." In three cases the operation was entirely successful; in five, great relief was obtained, so that the urine could be retained for a number of hours; and in the remaining, no benefit was obtained. Since the discovery of the anæsthetic powers of Ether, he places his patient under its influence. The position of the patient is, on the back, as in the operation of lithotomy.

Dr. John P. Mettauer reported in the number of the Virginia Medical and Surgical Journal for June, 1855, that twenty-five years previous to that period, he had first operated for vesico-vaginal fistula, during which period he had met with many extremely interesting cases, most of which he had treated successfully; that he had expressed the opinion, in a publication on this subject, "that every example of the disease could be cured;" but that since that time he had met with cases which had defied all his attempts, and induced him to modify his opinion; but that he still believed a large proportion could be cured. His plan of operating is as follows:—The patient is "placed on her back, as for the operation of lithotomy, on a high bed, with folded blankets and sheets under her to protect the bed, the parts being exposed to the strong light of a window immediately opposite to, and on a level with the perineum—care being taken that the nates rest fairly on the edge of the bedstead, so as to render the parts to be operated on, easy of access. A two-bladed speculum is employed for the purpose of dilating the os externum and vagina—the handle of the instrument being held by the patient herself. The free borders of the fistula are next denuded of their mucous membrane, by the use of delicate hooks to take

hold of it, and scissors curved on their flat surfaces, or delicate knives curved in like manner, or of the ordinary form, to excise it beneath the hook." The mucous membrane is next to be removed to the extent of half an inch beyond the border, in a continuous strip. For arresting hemorrhage, cold water is to be injected with a syringe. Metallic threads of pure lead, five or six inches long, are then introduced by means of curved needles, held in Physic's artery forceps, and conveying silk ligatures, to which the leads are attached. The needles are passed from the vesical cavity into the vaginal, one inch from the denuded margin, so as to transfix both vesical and vaginal wall. After as many sutures are introduced in this manner, as are requisite, the edges are closely approximated, and secured in that position, by twisting the wires by means of forceps, adapted to the purpose. Much care and judgment is required, to graduate the compressing force which is applied by the twisting, so that while the edges of the wound are kept in close apposition, the circulation is not arrested, so as to endanger sloughing or ulceration.

The rule by which the surgeon is to be guided in determining the proper amount of force to be applied, is, "the fixed and erected state of the twisted extremities of the wires, and their bristle-like spring when touched with the probe." The wires having been secured in this manner, "the twisted extremities are to be cut off transversely, so as to project a few lines beyond the range of the vulva." A short silver catheter is now to be introduced, and the patient to be directed to lie on her left side. The bowels are to be constipated by opium. On the third day the ligatures are to be moderately tightened by twisting. The sutures are to be removed about the eighth or tenth day.

Dr. Mettauer remarks that "it is the depth of this suture that secures its reparative efficacy—that is the point on which success turns; and if the denudations are effectually executed, a failure will seldom follow. This suture can be safely passed through the vesical wall, and I decidedly prefer it, because it secures more effectual suturization; and it is entirely free from all liability to induce inflammation of the bladder, as my experience fully testifies."

"The possibility of small fistulous openings following suturizing through the walls of the bladder, is the only danger of importance to be feared; and if the threads are not permitted to remain longer than eight or ten days, this accident can hardly take place. I have often suffered them to remain ten or twelve days, without such an occurrence. In a few hours the ligature openings close,—I have rarely known them discharge urine after a day."

The American Journal of the Medical Sciences for January, 1851, contains a communication from Dr. J. Marion Sims, at that time a resident of Montgomery, Ala., detailing a method of treatment of the cases which we are considering, originated by and peculiar to himself, exhibiting a degree of persevering industry and ingenuity in the invention and perfection of instruments and curative apparatus, deserving of the highest commendation, and entitled to the admiration of every surgeon who feels the amount of interest in this subject which it deserves.

Dr. Sims employs a suture resembling that known to surgeons as the *quilled suture*—using leaden clamps, in place of quills, and silver wire in place of silk thread. Instead of the dorsal position, which is preferred by most surgeons, that on the knees, the body bent forward, head and shoulders depressed, nates elevated, knees separated six or eight inches, is preferred by this surgeon.

The table, on which the patient rests, is placed in front of an open window—the sun's rays are concentrated on the vulva by means of a mirror. The vagina is dilated by a speculum of peculiar form—the part which enters the vagina is made of polished German silver, and shaped like a duck's beak, and is bent at right angles with the handle. This speculum is introduced at the perineal commissure of the vagina, which is above, in this position of the woman; the perineum is forcibly elevated by an assistant holding the speculum by its handle with one hand, and drawing with the fingers of his other hand, the labium of the side on which he stands—while the other labium is drawn in a contrary direction by the fingers of another assistant standing on the other side. In this manner the whole vagina is perfectly displayed, and a fair view obtained of the fistulous orifice.

With a delicate tenaculum fixed in a handle five or six inches in length, the mucous membrane of the vagina near the edge of the fistula is raised, and with a small sharp-pointed scalpel fixed in a handle of the same length with that of the tenaculum, a strip of vaginal mucous membrane, from $\frac{1}{4}$ to $\frac{1}{3}$ of an inch in breadth, is dissected off all around the opening. The lining membrane of the bladder is not removed, unless it is very much altered in character, and projects through the opening so as to interfere with the operation.

The circumference of the opening having been thus thoroughly denuded a spear pointed needle, fixed on a shaft about six inches in length, armed with silk thread, is introduced at the distance of $\frac{1}{2}$ inch from the incised edge of the mucous membrane, only penetrating through the thickness of that membrane, and not

entering the cavity of the bladder, and brought out at the same distance from the freshened edge of the posterior or upper lip of the fistulous orifice. The farther end of the silk is withdrawn from the eye of the needle; the proximal end of the silk is then attached to the end of the silver wire, bent into a loop, and by means of the silk, the silver wire is lodged in the proper place. A sufficient number of sutures are introduced according to the extent of the opening, and both ends of the wires are brought out at the vulva. The distal ends of the wire are now passed through the openings in a leaden clamp of sufficient length, and secured by being wrapped round the clamp; and this last is lodged in its place above the upper lip of the fistula, by making traction on the proximal ends of the wires.

Another clamp of the same length, as the one which has been applied, is now threaded with the ends of the wires, which remain at the vulvar orifice, and pushed up by means of a species of fork contrived for this purpose. By making traction on the wires, and pushing up the lower clamp at the same time, the edges of the fistula are brought into close apposition. Small bird-shot, perforated with holes, are now run on the wires, and pushed up to the lower clamp, where they are secured by compression with a pair of strong forceps. The wires are then cut off about $\frac{1}{4}$ or $\frac{1}{8}$ of an inch below the shot. A catheter is now introduced into the urethra, and removed once or twice a day for cleansing. The woman is confined to bed—diet, crackers and tea; the bowels are kept entirely locked up by the free exhibition of opium. The sutures are examined about the third day, and removed on the tenth or twelfth.

Several very ingenious instruments have been invented by Dr. Sims for facilitating the performance of the operation. A blunt hook furnishes a point of support to the moveable mucous membrane, in thrusting the needle through the upper lip of the fistula. A small fork can be used as a pulley for drawing down the upper end of the silk thread and preventing its cutting out; and a wider fork answers for pushing up the clamps and adjusting them.

The catheter, which is peculiar to Dr Sims, and which he perfected after many experiments, is shorter than those in general use—merely long enough to measure the length of the female urethra; curved at each extremity, so as to resemble the Italic letter *S;* the end which is in the bladder, curves upwards, and rests behind the symphisis pubis; the external end curves downwards, and rests in front of the meatus urinarius. It acts on the principle of the syphon, and is self-retaining.

Dr. Sims claims that he has originated:

1st. A method by which the vagina can be thoroughly explored and the operation easily performed.

2nd. That he has introduced a new suture apparatus, which lies imbedded in the tissues for an indefinite period without danger of cutting its way out, as do silk ligatures.

3rd. That he has invented a self-retaining catheter, which can be worn with the greatest comfort by the patient during the whole course of treatment.

Every surgeon who has faithfully studied the method of cure which has been presented to the profession by Dr. Sims, and the apparatus which he has invented for effecting it—and who has, at the same time, employed it—must be prepared to accord him the fullest meed of praise, as well as gratitude, for the industry and ingenuity which he has displayed, and the very convenient and efficient means which he has placed at the disposal of the Profession, for the management of a disease which has been hitherto found exceedingly incorrigible.

But, while we are prepared to admit that, in the hands of Dr. Sims, and guided by his skill and experience, success may be the rule, while failure the exception; justice to him and others, compels us to state with candor, that such has not been the result in the practice of other surgeons.

The sources of failure are to be found in the suture apparatus. The wires *will* cut themselves out in certain cases, however much attention may be bestowed, in their introduction at a sufficient distance from the edge of the raw surface, and sufficient depth into the sub-mucous tissue; the lips included between the clamps *will* slough, however much judgment may be exercised in drawing them together, and irregularities on the vaginal surface, rigidity from cicatrices, and the situation of either a part, or whole of the fistulous opening, may prevent the clamps from being evenly applied and with sufficient parallelism, to secure their regular and efficient action. In consequence of these occurrences, the patient has to be subjected to a greater or less number of repetitions of the operation; and perhaps, other means have to be employed for the perfection of the cure. The following case (among others,) will prove the statement which has just been made:

March 16th, 1855. I was requested by Dr. Fickling to visit with him, Chloe, a negro girl belonging to Mr. Baynard, of this city (Savannah.) I was informed that, in the month of December previous, she had been delivered of a child after a very severe labor, which lasted for two or three days; since

which time, she had not been able to retain her urine. Without much difficulty, an urinary fistula was diagnosed, accompanied with great contraction and rigidity of the vaginal canal.

The death of Dr. Fickling a few days after this, placed the case entirely in my hands.

I had her removed from her owner's residence to my private infirmary, where a more thorough exploration of the case revealed the following condition of things:

The vaginal orifice contracted and rendered extremely rigid and unyielding by the formation of tough bands on each side; a fistulous orifice, three quarters of an inch in its longest (transverse) diameter, at the distance of one and a half or two inches from the external orifice of the urethra; one half inch above this, the finger came in contact with an obstruction, or bridge in the centre of the vagina, on each side of which a narrow passage extended upwards.

The finger introduced into the rectum, detected what *seemed* to be the cervix and body of the uterus; but this could not be very distinctly made out.

From the evidence thus obtained, I inferred that there was an adhesion of the vaginal walls at the point of obstruction to the farther passage of the finger upwards, and that the canal was obliterated from that point to the os uteri above.

The condition of this poor creature was most deplorable. The urine passed from her involuntarily and without cessation—bathing the vagina, vulva, thighs and nates, and excoriating them by its acrid properties; causing intense suffering and inability to move about, and exhaling its intolerable stench, disgusting to herself and all in her vicinity.

To rescue a fellow creature from such a state of wretchedness, every generous and humane feeling was irresistably appealed to; but the attempt seemed hopeless, and was so deemed by most of those who saw her. Encouraged, however, by the results in some very unpromising cases reported by Dr. Sims—where his operation was crowned with success after numerous repetitions—I determined not to be deterred by these very discouraging appearances, and accordingly undertook the treatment.

As the first step towards any operative procedure, it seemed to be imperative that the vagina should be dilated. My attention, therefore, was directed to this object. At this time the vagina was so much contracted, that the smallest sized speculum could not be introduced, and the fistulous orifice could not be brought into sight.

The patient was so intolerant of pain, that no manipulation of

any importance could be performed, without placing her completely under the influence of an anæsthetic agent. She was accordingly made to inhale a mixture of chloroform ¼, sulphuric ether ¾; and the rigid bridles, on each side of the vagina, incised as freely as was deemed prudent. Dilatation was then attempted by the daily introduction of sponges and gum elastic bougies, and a catheter was retained in the bladder to conduct off the urine from the inflamed and excoriated vagina.

On the 17th of April, the patient being etherized, the fistulous orifice was brought into view by the introduction of Sims' speculum; an incision was made with a long handled scalpel, through the upper extremity of the blind pouch, into which the vagina had been converted by the adhesion of its walls antero-posteriorly. The incision was made transversely, and carefully extended on either side so as to divide the lateral bridles as much as possible. The finger was now passed up into the incision, and made use of for tearing up the adhesions above, and separating the walls as high as could be reached; but no os uteri could be detected by the end of the finger.

The fingers in the rectum and vagina at the same time, and afterwards, a finger in the vagina, and catheter in the bladder, proved that the passage which had thus been effected was between the bladder and rectum, and in the proper locality of the vagina. Lint was now inserted into this passage in order to prevent re-union. The operation was followed by considerable hemorrhage, which continued for some hours.

The process of dilatation was continued until May 10th, when I determined to make an attempt to close the fistulous opening.

The patient was placed on a table 3 feet by 4 feet, in a kneeling position, her body being supported, the head inclined downwards, the nates turned towards an open window, and the sunlight concentrated by a small looking glass on the vulva, so as to throw as much light as possible, into the vagina. The hands, trunk and lower extremities were secured by bandages to the table. As soon as she was profoundly influenced by the anæsthetic, Sims' speculum was introduced, which exhibited the fistula very much obscured by blood and urine, from the inflamed vagina and bladder. This was sponged out and the mucous membrane raised by the tenaculum, and dissected off by means of a knife and curved scissors. The mucous membrane was removed by excoriation to the distance of an inch in front, and the posterior lip of the fistula was formed by a thick edge of the adherent tissue which had been divided in the first operation.

With great difficulty, owing to the contracted state of the va-

gina, the silk threads were passed by means of Sims' needle, and the silver wires lodged in their proper places; the leaden clamps were then applied and the edge of the fistula brought into apposition. Sims' catheter was introduced and the patient placed in bed. The bowels, which had been freely purged by castor oil on the day before the operation, were constipated, and patient kept quiet by the free exhibition of opium in two grain pills, her diet, crackers and water. The catheter was removed once or twice a day and water, either warm or cold, (according to the weather,) liberally thrown upon the vulva and into the vagina, by means of a syringe.

May 14th. Speculum introduced and parts examined. No derangement of the sutures; lips of fistula well approximated in centre, extremities doubtful.

May 17th. Examined: suture at left extremity of clamp torn through anterior lip; no adhesion at left extremity; middle closed.

May 21st. Sutures removed; adhesion of one-third at the centre; each extremity open, and urine passing through. These points were so much concealed by lateral columns of the vagina that it was nearly impossible to freshen the edges, or to apply the clamps properly.

June 4th. Assisted by Drs. Bulloch, Mackall, and Mr. Godfrey a student of medicine, the patient (Chloe) was again placed upon the operating table, secured in the same manner as before and etherized—the bowels having been emptied, on the day previous, by castor oil.

In consequence of the extreme narrowness of the vagina, the speculum which was found to be inconvenient, was dispensed with, and the dilatation was effected as well as possible by my own finger and those of my assistants.

It was ascertained that about one half of the original opening had been closed by the former operation, at the centre, leaving an orifice at each lateral extremity, through which air and urine bubbled. That on the left side, was most difficult to reach being concealed by a rigid cicatrised fold of mucous membrane, which lay parallel with the Ischio-pubic ramus. The paring of the edges of the two openings, although attended with much difficulty, was more easily performed than at the preceding operation.

The sutures (two in number,) were passed through the edges of the left opening, extreme difficulty being encountered in disengaging the silk from the eye of the needle, after perforating the posterior lip; and on applying the clamps, the unyielding character of the tissues rendered it impossible to push up the

anterior clamp as fairly and squarely as was desirable. The opening, however, appeared to be pretty effectually closed.

Two sutures were also passed in the same manner, but with less difficulty, through the opening on the right, and the clamps were placed very satisfactorily, so that the urine flowed entirely through the urethra. The patient was then remanded to bed with the catheter in the bladder, and the subsequent treatment was the same as after the first operation.

June 8th. Examined: everything looking well. The clamp on the left side, which gave us so much trouble in the application, seemed to have retired more within the vagina, and approximated the posterior more nearly. The sutures were removed on the tenth day—it having been ascertained some days before. that those on the right side had cut through the anterior lip. I was grieved to find that no union had taken place on either side.

No farther operative procedure was undertaken for closing the fistula, until the 18th of October following. At that time it was found that the upper part of the vaginal canal had reclosed, and that the contraction of the lower portion had sensibly increased. With extreme difficulty, a denuded surface was obtained, by means of the knife, around each fistulous orifice, and leaden wires were passed by means of Sims' needle, the upper thickened fold of mucous membrane was drawn down as well as possible over the openings, and the ends of the wires twisted together.

On the 20th October the parts were examined, and to my chargin I found the wires broken. They were, accordingly, removed.

October 25th. Patient being placed on the table and etherized, a silk thread was passed, doubled, through the lips of each opening—on the distal end was secured a perforated buck-shot, which was drawn up above the posterior lip; the proximal ends of the threads were then passed through three perforated buck-shot, traction made on the thread, and the lower end tied across a round piece of wood about the size of a pencil or pen-holder. In this manner the edges seemed to be pretty well approximated, and it was hoped that their adhesions would be effected.

On the third or fourth day after this last operation, it was ascertained that the sutures had cut their way out, and they were removed.

So much irritation of the bladder and vagina was the result of these operations, that the patient was kept in bed, and the catheter retained in her bladder. As soon as this subsided, she was allowed to rise and move about.

On examination some days after, it was observed that she had some incontinence, but no passage of urine through the vagina.

Dec. 1st. Her menses made their appearance for the first time since the accouchment, at which this grave accident occurred.

Dec. 21st. The vagina is moistened slightly by a thin fluid of urinous appearance, which flows from a minute point on each side of the vagina. These points were touched occasionally with Nit. Argent. for several weeks. At length a galvanic spark was kindled at each of these points, and in the course of some weeks, every appearance of fistulous opening was obliterated, and the patient was discharged as cured.

Here, then, is a case which confirms what I have asserted—that Sims' suture ingenious and beautiful as it is, has not proved, in the hands of others, to be "all that could be desired." The reason of its failure was found in the indurated and inelastic condition of the altered vaginal tissues, which prevented the proper approximation of the clamps, and their "imbedding" themselves in the mucous coat, as is represented by Dr. Sims.

Nevertheless, (the case just detailed, and two others which will be mentioned, to the contrary notwithstanding,) until lately, I have regarded Dr. Sims' method of suturization, as the most perfect yet discovered, and the one most likely to succeed, and that it would prove triumphant in a very large majority of cases.

During the last winter, I received a small pamphlet entitled, "Remarks on Vesico-Vaginal Fistula, with an account of seven successful operations. By N. Bozeman, M.D., of Montgomery, Ala."—*Southern Journal, Augusta.*

[CONCLUDED IN OUR NEXT.]

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2. *Obstetric Notes and Reflections.*—By D. WARREN BRICKELL, M.D., Professor of Obstetrics, New Orleans School of Medicine. A case proving that Menstruation is not only Ovulation, with or without a sanguineous discharge; but that it is, also, the periodical exfoliation of the mucous membrane of the body of the uterus.—About six months ago, I was performing an autopsy in the dead house of the Charity Hospital. On an adjoining table lay the body of a stout young female, who was said to have died of disease of the heart. She had died a few hours previously, and was still quite warm. The thorax and abdomen were laid open. The body had been abandoned, and curiosity led me to examine the internal organs of generation. The uterus and appendages had been cut from the pelvis, and the anterior wall had been laid open. The parts had been thrown aside as possessing

no especial interest. The moment I saw the organs I was struck with their being highly engorged with blood, and the uterus was considerably larger than usual. The pelvis was filled with blood which had flowed from the vessels when the organs were detached. The next thing that attracted my attention was the most palpable specimen of *recent* corpus luteum in one ovary. The corpus was large and prominent, and the depression on its centre, exhibiting the point of escape of the ovule, was evident beyond all cavil. In this same ovary one other Graafian vesicle seemed fully matured, the parts surrounding it being highly congested, but the ovule had not escaped. The other ovary was generally congested, but there appeared to be no mature Graafian vesicle.

But the most interesting feature in the case, was the *complete absence of the lining membrane of the cavity of the body of the uterus.* The moment my eye alighted on the inner surface of the organ, I recognized the woodcut of Tyler Smith, in the May, 1856, number of the *Lancet* (Amer. edition,) representing the inner surface of the uterus of a woman who died of apoplexy during the catamenial flow. Nothing could have been more striking than this resemblance ; and if I had ever been skeptical in relation to the observations of the author, I was now bound to admit his accuracy. Down *to the os uteri internum* the mucus membrane was gone, and the inner surface of the organ rough, with innumerable blood spots scattered over it. All *below* the os internum was smooth, and in every respect natural in appearance. The difference in sensation conveyed to the finger by touching the two surfaces was as palpable as the impression conveyed to the eye.

The only doubt now remaining about the case was, whether it might not be the uterus which had very recently been delivered of an early ovum. More extended examination, however proved clearly that this was not the case. The vagina was very small, and its mucous membrane highly corrugated ; and there was a well defined hymen. To add to this, the mammæ showed none of the changes generally produced by early pregnancy.

The subject was to all appearance, about eighteen or twenty years of age, and quite robust. She was the subject of anasarca to a considerable extent, and was said to have died very suddenly —her death being attributed to disease of the heart. I tried to get a more accurate history of her from the nurse of the ward in which she died, but as is too often the case, she only knew that such a woman had been in the ward, had lived, and then had died.

Tyler Smith says, " According to my view, the mucous mem-

brane of the uterus becomes excrementitious every month, and is discharged from the cavity of the uterus in a state of disintegration, and the uterus forms a new mucous coat, by a process similar to the reproduction of lost parts." Coste and others speak of the exfoliation of the mucous membrane of the uterine cavity under certain circumstances; but, so far as I am aware, Tyler Smith is the original advocate of the theory above laid down. After reading all the observations I could procure on this interesting subject, I was altogether inclined to adopt this theory, and the case I have thus described only the more strongly tends to prove its correctness.

PRACTICAL MEDICINE AND PATHOLOGY.

1. *Extracts from the "Journal des Connaissances Medico-Chirurgicals."* Translated by M. Morton Dowler, M.D., of New Orleans, for New Orleans Medical and Surgical Journal.

Formulæ of Suppositories and Enemata in Ascarides of the Rectum. By Professor Trousseau.—I. *Suppositories.*—1. ℞. Tannin, grs. xv; butter of cocao, grs. xv. Melt the butter of cocao in a mild heat, with which mix the tannin reduced to a fine powder, stirring the mixture till congelation takes place, and let the mass be poured, in a semi-fluid state, into a paper mould to give it the proper form for use.

2. ℞. Biniodide of mercury, gr. $\frac{2}{3}$; butter of cocao, ʒi. Melt the butter as above, and when it is almost cold, add the biniodide and triturate together, and shape in a paper mould as above.

II.—*Enemata.* 1. ℞. Soot of wood, sifted, ʒvi; water, ʒvii. Boil for a quarter of an hour. Give for enema, half an hour before the child goes to bed, and let it be repeated for several days.

2. ℞. Calomel, grs. iv; mucilage of flax seed, ʒiv. Let the calomel be suspended in the mucilage, and be given for enema, which ought to be repeated night and morning.

3. ℞. Bichloride of mercury, gr. $\frac{1}{3}$; distilled water, ʒiii. Dissolve for enema, to be used as the preceeding, and administered with a glass syringe.

4. ℞. Biniodide of mercury, gr. $\frac{1}{6}$; iodide of potassium, grs. xvi; distilled water, ʒiii. Triturate the two salts together with a few drops of water. The red biniodide of mercury dissolves in the presence of the iodide of potassium. The whole is to be given for an enema.

5. ℞. Arsenious acid, gr. $\frac{1}{6}$; distilled water, ʒiss. Let the acid be dissolved in the water, which is to be hot. The intestine is to be cleared of its contents by a simple enema, and then the above solution is to be thrown into the rectum with a syringe of glass.

Formulæ of the "Vienna Laxative."—Professor Schutzenberger of Starsbourg, gives the following as the formulæ of this preparation, and he highly extols it in recent cases of Bright's disease, etc., etc.

℞. Senna leaves, ʒss; corinthian raisins, ʒss; root of polypodum, grs. xv; coriander seed, grs. x; bitartrate of potash, ʒss; M. Infuse in water, q. s. to form a *colatura* of ʒiii, in which is to be dissolved manna, ʒi. The effect of this liquid is to draw to the mucous membranes of the intestine, serous effusions which may be infiltrated into the tissues, and embarrass the functions of the organs of the body.

Treatment of the Itch.—After numerous trials, repeated during a long space of time in the military hospital of Belgium, it has been found that the itch can be radically cured in two hours, by means of frictions made with the liquid sulphuret of calcium, which is prepared as follows: ℞. Flowers of sulphur, ʒiii; caustic lime, ʒvi; water, ʒxxxii. Boil, and when the combination is completed, leave the whole to cool, and decant into bottles, which must be the hermetically sealed. A pint of this liquid amounts to only twenty *centimes*, and ʒiii is sufficient to effect a cure. The following is the programme of the treatment:

1. General friction with black soap for half an hour;
2. Simple tepid bath for half an hour;
3. General friction with the liquid sulphuret of calcium, which must be left to dry on the skin for a quarter of an hour;
4. Immersion and washing of the whole body in a water bath.

The whole of this can be done in two hours.

The liquid sulphuret, in evaporating, leaves a thick coating which penetrates into the recesses, and destroys both the *acari* and their ova. This method has been followed in Belgium for the last two years, with great success, and has the triple advantage of simplicity, economy and rapidity of cure.

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4. *The Silicate and Benzoate of Soda in connection with Aconitum and Colchicum, in the treatment of Gout, Gravel, Chronic Rheumatism, Vesical Catarrh, Sciatica and various Neuralgias.*

Translated and condensed from the *Journal des Connaissances Médico-Chirurgicales*, of October 1st, 1856. By M. Morton Dowler, M.D., New Orleans.—The present article is a summary of a Memoir by MM. J. A. Secquet and J. Bongean, the former physician to the Hotel Dieu of Lyons, etc., and the latter Pharmaceutist of Chambéry, Secretary of the Royal Academy of Savory, etc., etc.

The assemblage of therapeutic agents which are here offered to practitioners, and which are designated under the generic name of *dyalitic* preparations, (from *dialyo*, *I dissolve*, *I disperse*, *I destroy*,) is represented by the authors as having rendered great service in a group of diseases, presenting, to a greater or less degree, a common or analogous diathesis, viz:

1, Articular gout; 2, gouty and rheumatismal sciatica; 3, gout of the viscera, (neuralgia of the stomach, intestines and head;) 4, gout of the kidneys, (gouty nephritis;) 5, the presence of the condition productive of urinary calculi.

The complete indentity of the nature of the articular concretions and gravel, explains these various diatheses to the eye of the observer, and declares itself, not only in the articular pains, but also by the morbid manifestations showing themselves in other portions of the organism: and hence are manifested sciatica, hemicrania, colic, various affections of the urinary passages, etc. In fact, we have no other ready explanation of the phenomena of repelled or retrocedent gout, than in the assumption that the deposit of uric acid or urates, (called the gouty deposit,) ceases to be precipitated in the joints and articulations, that it may throw itself on the kidneys, bladder, head, lungs and neurilema of the principal nerves. The result is colic, severe cephalagia, paroxysms of asthma, violent pains in the kidneys, gravel symptoms, catarrhal inflammation of the bladder, sciatica and various other neuralgias.

The identity in the nature of gravel and gout finds confirmation in the fact that children born of gouty parents, often show calculous symptoms, and that parents affected with the latter, have been observed to give birth to gouty children.

The authors divide their work into two parts; first, the treatment, and, second, the pharmaceutic preparations.

The Treatment.—This is based on the following principles: First, to destroy the excess of uric acid, and to dissolve the urates which exist in the economy; Second, to modify the diathesis, that is to say, the predisposition which tends to reproduce these bodies. The treatment is *internal* and *external*.

Internal Treatment.—The medicinal agents which enter into

the two formulæ which the authors have adopted for internal use, (pills and syrups,) have been chosen amongst those which possess, in the highest degree, the property of decomposing uric acid or the urates, and of expelling them from the animal economy, in order to prevent the renewal of the same in the fluids of the body. These agents are the *silicate of soda*, *the benzoate of soda. colchicum and aconitum.*

The authors sum up the *modus operandi* in the three following propositions:

1st. *The silicate of soda facilitates the elimination of uric acid*, and can so extend its influence, as to even render the urine alkaline. And, moreover, by its tonic action on the digestive organs, and by its diuretic virtues, this salt possesses great advantages over the carbonates of soda and potash, to which the alkaline mineral waters owe their great and deserved reputation in calculous, rheumatismal, gouty and neuralgic affections.

2d. The benzoate of soda, which the dialytic syrup and pills contain, transforms the uric into hippuric acid, the combinations of which are extremely soluble, whilst those of the uric acid which would otherwise have escaped the action of the silicate of soda, contributes also, in its own behalf, to diminish, sensibly, the quantity of this acid.

3d. The colchicum promptly expels, by the renal emunctories, the uric acid that may be further contained in the blood.

4th. The aconitum addresses itself specially to the *pain-element* of the disease.

External Treatment.—Simple, unmedicated frictions, when lightly made, have themselves an excellent effect when our purpose is to calm the suffering, and to promote the resolution of the engagements. Their efficacy becomes still greater if they be practised with substances, the special action of which are calmnative and resolutive. Such, say the authors, are the principles which have guided them in the combination of agents which enter into the composition of the *liniments* they have proposed. Thus the hydro-carbonated essences, and especially those of turpentine and naphtha, have been even alone, employed with advantage, both in sciatica and articular pains. Mixed together after the method of the authors, with an appropriate quantity of fixed oil, containing the active principles of certain narcotic plants, we have combined in a single preparation, all the advantages that could be derived from the separate use of the essential oils and the stupefacient agents.

As to the acetic ether entering into the formula of the second *dialytic liniment* of the authors, its calmnative action in articular

pains have been for a long time well established. Sédillot in the old *Journal de Mèdecine*, Récamier, Double, Martin, Desgrange and numerous other practitioners bear witness in the premises. The observation of the authors has demonstrated its efficacy, and in combination, as they have here prescribed it, with the preparations of aconitum and arnica, it operates with still greater power.

Adjuvant Medication.—This has for its object, to bring to the assistance of the more active external and internal means, the mild and uninterrupted action of agents known as depuratives. Four of these preparations are here formulated, and are recommended to be alternated from week to week in order that the effect may not be worn out by continual use of a single one of these ptisans. It is one of the laws of therapeutics, which is admitted by all, that the energy of action, in even the most active remedies, is greatly diminished, if attention be not paid to changing the preparations after a certain lapse of time. This inconvenience will very soon arise in the use of these ptisans, if the patient be restricted to a single one of their number.

The Pharmaceutical and Chemical Preparations.—The following are the processes and formulæ of the dialytic preparations:

Silicate of Soda.—℞. Pure silica, one part; carbonate of soda, pure and dried, two parts: After having mixed these substances in a very thorough manner, they are to be introduced into an earthen crucible refractory to heat, and which ought not to be more than half filled, and the vessel is then to be submitted to the action of a strong and continued heat, in a reverberatory furnace. The materials become at first pasty, and afterwards they liquify, after the application of a powerful heat. After remaining a certain period in a state of fusion, the liquid is to be poured on a polished stone, and allowed to cool. We thus obtain, at first, an amorphous mass of a decided alkaline taste, and of a clear, gray-brown color, according to the purity of the materials employed.

The silicate is to be then pulverized, and treated with boiling water, which only partially dissolves it. The filtered and concentrated liquor allows the salt to be precipitated in an imperfectly crystalized state, which is again dissolved by water at 100°. This new solution, when filtered and sufficiently concentrated, furnishes the silicate of soda in the desired state of purity. This silicate is readily soluble in water, and the solution thus obtained, treated by a feeble acid, allows the pure silica to be precipitated in the semblance of a white frost.

Preparation of the Benzoate of Soda.—This is prepared in a very simple manner, by merely saturating benzoic acid with perfectly pure crystallized carbonate of soda, both having been previously dissolved in a sufficint quantity of water. The liquor being filtered, it must be concentrated by evaporation with a moderate heat, and left to crystallize. If the deposit be not very white, it may be again treated with boiling water, and the liquid must be filtered and the evaporation renewed, and there will be produced beautiful white crystals of the benzoate of soda, in the form of needles, which are efflorescent in the air. In using the salt of commerce, we must be assured against fraudulent compounds. The benzoate of soda used, ought to be that prepared from benzoic acid procured from the *benzoin*, and not that produced by the distillation of coal. The former resembles the essential oils, in being entirely volatilized by a feeble heat, and being largely soluble in boiling water and boiling alcohol.

Dialytic Pills.—℞. Silicate of soda, grs. cccIxxv; hydro-alcoholic extract of colchicum, ʒss; extract of the aconitum napellus, ʒi; benzoate of soda, ʒiss; medicinal soap, ʒi. Make into a homogeneous mass, and let it it be divided into one thousand pills, and thoroughly dried. The dose is at first one, then two, three or four daily, the one half in the morning, and the other night.

Dialytic Syrup.—℞. Silicate of soda, ʒxviii; benzoate of soda, ʒix; syrup of gum, ʒcccxxii; dissolve the benzoate and the silicate, separately, in a sufficient quantity of hot water, filter and mix the two solutions with the syrup, and then concentrate by boiling. Dose, from one to two dessert spoonfuls, in a glass of depurative ptisan.

Bituminous Dialytic Liniment.—℞. Pure naphtha, ʒiiss; narcotic oil, ʒss; volatile oil of turpentine, ʒiss; mix, and agitate from time to time, and filter, after some hours of repose. This liniment is of a fine green color, and ought to be limpid, and without deposit.

The narcotic oil above prescribed, is to be prepared in the following manner: ℞. Dry leaves of belladonna, aconitum napellus, nicotianum, cicuta, and strammonium, of each, ʒiii; olive oil, ʒclx. The leaves being reduced to a coarse powder; they are gradually to be moistened with warm water, in such manner as to render them a thick paste. After twenty-four hours' contact, add the oil, and macerate eight hours on hot cinders, frequently agitating the mixture, strain and press through the liquid and filter. The oil is extremely active, and is of a fine green color.

Ætherated Dialytic Liniment.—℞. Acetic ether, ℥iss; alcoholic tincture of the aoonitum napellus, ℥ss; tincture of arnica root, grs. lxxv; mix and filter.

These liniments are especially used as frictions, or they may be applied on a compress to the part, or they may be used for the purpose of a local bath by means of a caoutchouc envelope, or one of gummed taffeta.

Adjuvant Medication. Depurative ptsans.

(a.) Ptisan of saponaria, dulcamara, glycyrrhiza;

(b.) Sudorific ptisan of the codex, with liquorice;

(c.) Ptisan of fumitory, sharp-leaved dock and liquorice;

(d.) Ptisan of ash-leaves, bugloss, with strawberry root.—*New Orleans Med. and Surg. Journal.*

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5. *Treatment of Hooping-Cough by Enemata of Assafœtida.*—M. Ancelon, after passing in review, in the Annales de la Flandre, other modes of treating hooping-cough, on which occasion he greatly underrates the value of belladonna, among the narcotics, indicates his decided preference for assafœtida given per anum. He declares it to be a reliable and an heroic remedy, in the second and third periods of the disease. Little can be expected from it in the first period. Much of its efficacy will depend on the dose and mode of administration. To infants eighteen months to two years old, three injections should be directed, each of them containing, in the smallest possible quantity of vehicle, fifteen grains of assafœtida and two drops of Sydenham's Liquid Laudanum. The first of these is to be administered in the evening; the second on the following morning; and the third in the evening, from twelve to fifteen hours after the second enema. M. Ancelon believes that in the second period the disease can be at once and entirely arrested. The third period presents greater difficulties and requires longer persistence in the use of the remedy, which must be continued twelve to fifteen days consecutively, while we associate with it as adjuvant frictions on the skin with dry flannel or that which has imbibed oil of turpentine. M. Ancelon directs attention to the fact of which he has satisfied himself, that neither opium nor assafœtida, when given separately, produce any decided effect. Having had as he believed, a certain remedy at hand, he was not disposed to make trials of sulphuric acid or of alum.

[Assafœtida has long been a familiar remedy in this country, hooping-cough, at least as far as the teachings and writings of Dr. Chapman extended. With him this medicine was a favorite in this disease, and especially in combination with one of the

alkalies; but although no stranger to its use as an enema, he did not so formally and emphatically recommend it in this way as is now done by M. Ancelon.

Some salutary hints are furnished by this writer to the impromptu treatment of two infants in violent paroxysms of hooping-cough. The first was six months old, and when visited, it was in a room heated to an extreme degree, and a prey to an epileptiform fit of coughing. Snatching it up instinctively in his arms, M. Ancelon took it to the window, which he opened; the season, that of winter, was remarkable for its coldness, and he exposed the little being to the air of a temperature of sixteen degrees below freezing-point. A deep inspiration and some easy coughing soon indicated a cessation of the fit. On the second occasion, the same good result was obtained by dashing cold water on the face of the little sufferer. These, the author judiciously adds, are extreme palliatives, which give time for recourse to regular treatment.]—*North American Medico-Chirurgical Review*, *May*, 1857.

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6. *Mr. Startin's Method for the Prevention of Pitting in Small-Pox.*—"The plan consists in applying the acetum cantharidis (P.L.) or any vesicating fluid,* by means of a camel-hair brush, to the apex of each spot or pustule of the disease, on all the exposed surfaces of the body, until blistering is evidenced by the whiteness of the skin in the parts subjected to the application, when the fluid producing it is to be washed off with water or thin arrow-root gruel.

"The vesication for each pustule should not be larger than the eighth or sixth of an inch in diameter, leaving intact the boundaries of the inflammation, excepting where the malady has become confluent, when the entire surface so affected should be vesicated.

"With respect to the best period of the eruption of small-pox for making this application, although between the fourth and eighth days should be preferred, the vesication has seemed to me to have been efficacious whenever it has been practised before the slough has formed, evidenced by the secretion of pus, which slough is at once the cause of the pitting, and the peculiar characteristic of this formidable malady.

"The only treatment in these cases consists in puncturing the

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* It will be observed, that this practice of vesication is the opposite to that recommended by the writers advocating nitrate of silver, who desire to avoid the blistering process.

blisters with a needle, in keeping the affected skin clean by means of arrow-root or rice gruel (avoiding soap of every kind,) and in bathing the eruption several times a day by the aid of soft sponge or linen wetted with the following lotion: ℞. Sodæ biboracis, ℈j; Ammoniæ sesquicarbonatis, ℈j; Acidi hydrocyanici diluti, ʒj; Glycerini destillati, ʒss; Aquæ rosæ ad ʒviij. M. Ft. lotio.

"The pain attending the application of the vesicating fluid is very slight and transient, disappearing almost simultaneously with the ablutions recommended, nor does the blistering add much to the disfigurement, while it relieves the pyrexia and cerebral symptoms, should they be present. The *rationale* of the benefits arising from the method appears to me to be comprised in John Hunter's observation, that, 'if you can succeed in changing the character of an inflammation, you will often succeed in curing a specific disease;' which he calls 'the mode of cure by an irritation different from the disease;' * for he holds elsewhere that 'no one disease can have two distinct and different critical inflammations.'"—*Medical Times and Gazette, February* 21, 1857.

SURGERY.

1. *Apparatus for Fractured Clavicle.* By H. M. Weedon, M.D., of Albany, N.Y.—I constructed the following apparatus for the purpose of preventing, in a measure, the deformity which so frequently results from fracture of the clavicle; and trial has proved it adequate to the object designed. If you think the description here given worthy a place in your valuable Journal, it is at your service.

The apparatus consists of a short crutch, the shank of which is made of two pieces of steel, so as to slide up and down, and adapt itself to the height of the individual. At the top of the shank is attached a crescent-shaped piece of wood, to be padded in the form of a wedge; and at the lower part of the shank is a small foot-piece made to rest in the socket of a broad leather belt, which is to be placed around the waist.

It is applied in the following manner: The belt is buckled around the waist, with its pocket between the anterior superior spinous process of the ilium and the *symphysis pubis;* the foot-

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* Hunter on the Blood, vol. ii, page 131, et. seq., vol. i, page 454.

piece is then placed in the pocket in the belt, the wedge in the axilla, and the arm drawn over the wedge until the elbow touches the side, where it is confined by a roller, or by other means.

All the indications required in the treatment of this fracture are thus accomplished; the shoulder is carried upward by the length of the crutch, outward by the pad, and backward by the direction in which the upward force is exerted.

The apparatus is cheap and advantageous on account of its permanency; when well made and properly applied, it needs no interference until the cure is effected.—*Boston Journal.*

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2. *Best Treatment of Varicose Ulcers and Varicose Veins.*—The treatment of varicose veins is a practical every-day subject, inferior to none in interest for the hospital surgeon. Indeed, allied as this affection is, externally, to questions of practical surgery on the one hand, and depending for its causes on relations of the general venous system, and general internal health on the other, a wide field of speculation is afforded as to treatment. In hospital practice, accordingly, as the practitioner may be more of a physiologist and anatomist, or more or less influenced by the ordinary routine of simple surgical treatment, ligature of veins, constitutional treatment, or means of blocking up these vessels, will be trusted to, previous to healing the varicose ulcer. A good deal of danger of ligature of veins is found to originate in the fact that the vein is enlarged; and the ligature, when it should go deeper than the vein, will be found to have wounded or transfixed the vein and caused phlebitis.

Mr. Paget's experience every year assures him more and more of the superior value of the treatment varicose of veins by the caustic issue, or the extemporized mixture of lime and potash. There is no mode of treatment yet discovered, according to Mr. Paget, which is entirely free from risk; but from pretty extensive inquiries in the hospital practice of such surgeons as Sir B. Brodie, Mr. Lawrence, Mr. Skey, various hospital surgeons in the provinces, and in France and Germany, etc., Mr. Paget is inclined to the impression that the treatment of varicose ulcers and varicose veins is most safely and most effectually conducted by means of local applications of caustic issues on the surface, which thicken the coats of the venous trunk.

A very well-marked case of varicose ulcer of the leg, and leg and foot, which incapacitated the poor young man from employment and deprived his family of support, has been for some weeks in St. Bartholomew's, as well as a second case, where the varicose vessels gave way, but has again healed up. The former

case is that of A. D.———, a young and apparently otherwise active and healthy man, aged 28. He has been all the present month, (September) under treatment for varicose condition of the veins of the lower extremity; his disease consists rather of a very troublesome ulcerated condition of the ankle and foot, which he cannot himself conceive to be dependent upon the state of the veins. The history he gives of the case is not very defined, or is but a recapitulation of a set of abortive attempts to cure his ankle by ointments, lotions, salves, etc., each in its turn recommended to him as the most specific thing in the world for an inward disorder of the constitution, but still only making the disease worse.

The form of caustic used by Mr. Paget consisted of potassa fussa dm ii, quick-lime grii, separately in powders in small phials, and subsequently mixed with a glass or asbestos rod at the bedside, with spirits of wine, when used. A dozen or two of small pieces of common adhesive plaster are next obtained, each the size of a penny, a small circular hole being cut in each, of the size of a pea, or a silver threepence. One of these perforated pieces of plaster is placed over each projection or varicose enlargement of the vein, a very small quantity of the caustic paste is next applied with a bone spatula to the skin over the vein, in the circular hole left in the plaster; ten to twelve or fifteen minutes will be sufficient time for the issue to produce its effect, at the expiration of which period, the whole limb is carefully sponged with warm water, and all the plasters and caustic washed away. Little else was necessary in this case, as in the general class of these cases, the issue merely requiring simple dressing, while the ulcers in the ankle went on healing *pari passu.*

As a local application to the ulcer during the action on the varicose vein of the issue, any simple ointment or black wash is all that is required.—*Association Journal, Sept.* 1856.

ANATOMY AND PHYSIOLOGY.

1. *Letter from* Prof. Henry F. Campbell, M.D., *of Augusta, Ga., to* Marshall Hall, M.D., *of London, establishing his claim to priority in the discovery and naming of the Excito-secretory system of Nerves.*

Augusta, Georgia, U. S. A., *March 2nd,* 1857.

To Marshall Hall, M.D, London, F.R.S., &c.

My Dear Sir—In the number of the *London Lancet* repub-

lished in this country, for March, 1857, (present month,) I have just read a paper from your distinguished pen; and in this paper you *announce* a system of EXCITO-SECRETORY *nerves*, in the following connection and in the following terms:

"In a memoir read at the Royal Society in February, 1837, I announced the existence of an EXCITO-MOTORY system of nerves.

"I believe I may now announce a system or sub-system of EXCITO-SECRETORY Nerves, not less extensive."

As the above announcement is here made in close relation with a discovery long admitted to be your own—viz., that of the Excito-*motory* system of nerves, and inasmuch as in your subsequent remarks, you attribute the proposition to no one else, I am left to infer that it is deemed by you an original deduction from the admitted facts of Anatomical and Physiological Science, as developed by observations and experiments during the last and the present century. Some of these last—viz., the Experiments of Mons. Claude Bernard, of Paris—you adduce with apparent intention of fortifying the views you here express.

Finding in none of your communications upon this interesting topic, any mention made of my name or of my records, I am with regret, impelled, from considerations of courtesy to you and justice to myself, to call your attention to the registration of my own labors in the same important field. I will, however, first direct you particularly, though briefly, to several portions of your own communication, in order that they may be placed in convenient juxtaposition with my own records, without giving the trouble of each time referring to the pages of the *Lancet:*

"But the most remarkable proof of *the doctrine which I am endeavoring to unfold* is furnished by the brilliant discovery and skillful experiments of M. Cl. Bernard"—

And you here refer to his well known experiments on the Pneumogastric nerve in its relation to the secretions of the Liver, published in his Lectures on Experimental Physiology, during the winter session of 1854 and 1855.*

In the earlier part of your communication (March, 1857) you thus announce the addition of this, as you suppose. *new* sub-system, to what you term the "Diastaltic Nervous System," the term "henceforth" apparently being used to date the initial moment of an era:

"*Henceforth* the Diastaltic Nervous System, must be divided into TWO sub-systems:

I. The Excito-motory.
II. The Excito-secretory.

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* Lecon's de Physiologie, p. 325. Paris, 1855.

"The former is extended to the entire muscular system; the latter is diffused over the general system as the blood is diffused over the system."

Again in reference to the *Pathological* Relations of the *Excito-secretory* system, you remark:

"The *Pathology* of the Excito-secretory sub-system remains to be investigated and traced. A partial keen current of air falling on *any* portion of the skin may induce inflammation in *any* susceptible internal organ. An extensive burn or scald is apt to produce pneumonia."

And as my last quotation for the present:

"But here I close this brief communication. My present object is only *to draw the merest sketch* of this *vast subject* which demands a most extensive and cautious series of experiments and observations. The efforts of many laborers, through many years, will be required fully to develop the *two* sub-systems of the Diastalic nervous system.

"I propose shortly to treat this important subject at greater length and with more details."

Now, my dear sir, by a reference to the following series of records, running through a period of nearly seven years, you will at once perceive that the EXCITO-SECRETORY function of the nervous system has been the subject of earnest and diligent inquiry, and also of *plain record*, with me, for a length of time far anterior to that, at which either yourself or Mons. Bernard had published anything on the subject,

You will herein also perceive, that this system of nerves has been plainly recognized and set forth as considered *in its relations to Pathology*, through which, indeed, its *Physiology* has been mainly deduced by me. And, lastly, that this system of nerves, before plainly stated and amply discussed, was, as early as May 5th. 1853, in the presence of the American Medical Association, the highest tribunal in the Medical Sciences within my reach, *publicly* NAMED *by me* the EXCITO-SECRETORY: and that too in juxtaposition with and contradistinction to, your own discovery, viz., the EXCITO-MOTORY function.

This name or verbal combination, then for the very first time printed in the English language, or, indeed, in *any other* language, had not, so far as I can learn, after continued and interested inquiry on my part, been printed a second time, until taken from your own recent manuscript, it appears at the heading of your paper in the March number of the *London Lancet*, (American edition,) and thus becomes the occasion of the present communication.

Below, I now present you with certain passages from an article on "The Influence of Dentition in producing Diseases," read before the Medical Society of Augusta, Georgia, in May, 1850, and afterwards published in this city, in the *Southern Medical and Surgical Journal*,a periodical circulating extensively and exchanging with all the medical journals in this country and with many of those of Europe. Here you will *now* find these several records presented to you seriatim and in that order, together with the dates and accompanying circumstances, in which they were *long ago* successively presented to the Profession.

May 2nd, 1850. "Dr. Henry F. Campbell read an Essay on the Influence of Dentition in producing Disease."—[*From Minutes of a meeting of the Medical Society of Augusta, Georgia.*"

I will not quote from or remark upon the Essay now, but fully hereafter as published below.

June, 1850. Permit me now, respected sir, to refer you to the pages of the *Southern Medical and Surgical Journal.* (new series,) volume 6th, number 6, June, 1850. Part I.—Original Communications. Article XV., page 321. You will in this place find the paper just cited. published—viz: "An Essay on the Influence of Dentition in producing Disease. By Henry F. Campbell, M.D., Demonstrator of Anatomy in the Medical College of Georgia."

Here you will find that I have in the beginning, sketched prominently the two orders of phenomena which occur during the period of Dentition, viz., the *convulsive* and the *secretory*, explaining the first easily enough, by a reference to the principles of Excito-*motory* action laid down by yourself; while the other set of phenomena I presented in such a manner as that from them, the Excito-*secretory* function of the nervous system became an *obvious* and an *unavoidable deduction*—by this means mutually establishing a physiological principle before scarcely ever broached or hinted at; and in the second place, leaving no chance to escape the necessary admission that this set of phenomena, before perfectly inexplicable to the Profession, could only be rationally interpreted by the admission of that very Physiological principle. In doing this, "the two sub-systems," as you now term them, were throughout, kept in *close relation*, but in decided contrast, the one being used, occasionally it is true, to illustrate the other, but never for a moment becoming *confounded* with the other—thus: "*Now let us inquire how far these phenomena are dependent upon Dentition; and* ANALOGY with the EXCITO-MOTORY system will much assist us in our argument. We have seen that local irritation can through this

system, produce convulsions by the reflex function of the nerves, the sensitive branches of the fifth pair becoming excitor to the *motory spinal* nerves; and so, may we justly infer, do these same branches, under certain circumstances, become *excitor* to the SECRETORY filaments of the *sympathetic*, distributed so abundantly to the intestinal canal by a transmission of this irritation through the various ganglia with which it is connected."

You will also here see that the discussion is carried still further into the pathological relations of the, then, new function, and that I have instanced nearly all those localities which you have recently adduced, and that I have considered those changes in the Blood while eliminating the secretions under nervous influence which you, in your paper, designate by the word "*methœmatous;*" as in the following: "Thus the irritation at first produces simply an *exaltation* of the innervation of the secretory surfaces, and secretion is more *active* than normal, producing *simple diarrhœa.* A continuance of the irritation, *alters* the *character of the secretion* and we have the various morbid discharges observable during this period. This *increase* and *change* in the secretion are effected by the agency of the altered function of the nerve upon the arteries from which these secretions are eliminated."—(*See Southern Medical and Surgical Journal*, p. 331.)

Without further remark at present, I will lay before you that portion of this Essay which embodies my first record upon the Excito-secretory function of the nervous system.

"The period of Dentition has ever been regarded one of peculiar interest, as well to the pathologist as to the practitioner. That certain diseases are more apt to occur during this season, few pretend to deny; but the amount of the symptoms, due to the irritation of teething, has been variously estimated, some attributing to this cause nearly all the ills to which infancy is liable, while others ridicule the idea, that a process in itself so purely physiological and natural should be regarded *ever* a cause of disease.

"The object of our essay is to investigate impartially this important subject with the view of determining, as nearly as possible, to what extent the organism is affected by the evolution of the teeth. In doing so, it appears to us most rational, as a primary step in the investigation, to review briefly the phenomena of both normal and anormal dentition, with the view of finding the foundation of the pathogenic theory, if such exists, in the *physiology* of this process.

"The phenomena observed during easy or normal dentition may be briefly summed up as follows. The salivary secretion is

increased, the gums are swollen, the mouth hot, and the child evinces a disposition to press every substance within its reach upon the gums, in order to relieve the irritation it here suffers. Later, the gums become more swollen and softer, the irritation more distressing, and, under certain circumstances, the mouth dry and slightly inflamed. The child becomes fretful; its sleep is disturbed and feverish, its bowels become loose, which latter symptom we frequently observe accompanied by nausea and vomiting. There is also described by some authors an irritation of the schneiderian membrane, *with increased secretion*, marked by the child's rubbing its nose.

"Cases of anormal dentition are brought more frequently under the cognizance of physicians, and their phenomena are hence familiar to every one. The above symptoms become exaggerated—some, which in normal dentition were of trivial importance, becoming so severe as to threaten the life of the patient. Thus the gently relaxed condition of the bowels, which in easy dentition was even beneficial, is now changed to diarrhœa with distressing tormina and alarming emaciation. The salivary glands, which in easy dentition manifested their implication only by *increased secretion*, now become inflamed and swollen till finally their secretion is altogether arrested, leaving the mouth and tongue dry, parched and painful; and the nervous fretfulness of the normal process is often replaced by actual fever, sometimes attended by the most terrific convulsions.

"We have here sketched hastily some of the more prominent phenomena of both easy and severe dentition, as we each daily observe in practice, and reported by authors, and we do not adduce them at present as the direct results or consequences of the process, but only as its pretty constant concomitants. In referring to those symptoms hereafter in the course of our essay, we will necessarily enlarge upon and develop more fully some of their characteristics. Let us now, with a little attention, enter upon an analysis of these concomitants of dentition, and endeavor to ascertain whether or not their origin may be found in the process itself. To this end, we will consider briefly the *anatomy and physiology* of the parts concerned in this important and often perilous process of evolution."

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"From the above considerations we are induced to conclude that the *convulsions* are often produced by the irritation of dentition, and can be directly referred to this as the sole cause.

"We arrive now at a point in this somewhat obscure and much disputed question which perhaps affords more ground for doubt

than any of the foregoing, viz., a consideration of the *pathogenic influence of dentition in the cholera infantum or diarrhœa* so uniformly co-existent with this process. Unlike the convulsions the analogy between which and certain known and established phenomena of the excito-motory system which it is only necessary to refer to, and their operation is plain and intelligible, this new set of symptoms, if we refer them to the process of dentition, requires us to look yet deeper into the mysteries of our nervous organization, and to *venture still one step further* on the *terra incerta* of sympathetic interpretation,

"In order to apply our arguments, let us hastily review the foregoing investigation, that they may bear more fully upon this part of our question; and, firstly, we have seen that inflammation, pain, and irritation are produced *locally* by the process of dentition, evinced by restlessness, biting, &c. Secondly, we have seen that this local irritation can be transmitted by excito-motory influence to other and distinct parts of the body, manifested by convulsions. We have also endeavored to corroborate the latter opinion by a reference to the order of succession in the nerves in which this irritation occurs, and also by a comparison of these phenomena with other well understood and established analogous phenomena. Heretofore we have had to deal entirely with functions of the cerebro-spinal system of nerves; but to account for this second and more obscure part of our problem, we must look in vain to any direct anatomical connection between the fifth pair and the rest of *this* system of nerves. *We are forced to seek out other connections, indeed more intricate and indirect, but fortunately no less legitimate and definable.* We have now to consider a set of organs which, unlike the voluntary muscles, have no connection, or rather we would say, emphatically, they *have* a connection, though indirectly, with the cereknow bro-spinal system. We mean the abdominal viscera, which we are almost altogether supplied from the great sympathetic system of nerves. *Now, in the prosecution of our inquiry it becomes necessary, to the elucidation of the question to trace out the same connection between the fifth pair and the sympathetic or secretory, as we did between the fifth pair and the cerebro-spinal or motory nerves*, and then should we succeed, we will briefly inquire into the bearing which this connection and its possible results may have upon our question.

"The connections between the fifth pair, the rest of the cerebro-spinal system of nerves and the great sympathetic, are so abundant and universal that it is only necessary to enumerate a few of them to illustrate the fact. Firstly, we have a connection

in the opthalmic or first division of its nasal branch communicating with the ciliary ganglion; then in the superior maxillary, or second division, are branches of communication with Meckel's ganglion; again, in the sub-maxillary ganglion, with the inferior maxillary or third division. So much for the fifth itself. Then we know that every one of the spinal nerves throughout the entire chord are connected to each sympathetic ganglion of the system, thus establishing communications the most abundant and intimate between these two systems of nerves. We know also that these ganglia distribute numerous branches to all the splanchnic viscera by plexuses which accompany the arterial trunks into the minute structure of these organs.

"Thus connected and distributed, this nerve presides over the important functions of nutrition and secretion, which office so characterizes it as to give it the name of the SECRETORY system. In the physiology of the nervous system, there is no fact better established by anatomy and pathology, as well as by experiments on the lower animals, than this, that the sympathetic nerve, whatever else may be its functions, always forms a necessary element in the nutrient and secretory apparatus of all the splanchnic viscera; and further, that upon its sanity depends the due administration of these two great functions. It is the nerve for bloodvessels; "and," remark Todd and Bowman, "as secretion is mainly dependent on the normal nutrition of glands, it is reasonable to suppose that the function would be to a certain extent controlled by these nerves." And as early as the year 1732, Pourfour du Petit found that the division of the trunk of the sympathetic, opposite the fourth or fifth cervical vertebra in dogs, was followed very rapidly by great disturbance of the circulation of the eye-ball, producing inflammation, flattening of the cornea, and finally destruction of this organ.

"The experiments of Dupuy upon the horse, wherein he severed this nerve at the superior cervical ganglion, also corroborate this statement; general emaciation here ensued, with an anasarcous condition of the limbs and an eruption over the whole cutaneous surface.

"In some experiments made by Dr. J. Reid, and reported by Todd and Bowman, in reference to the sympathetic branches supplying the eye, it was found that the effect of a section of this nerve was to produce an immediate injection of the conjunctiva. In one case, he observes, the redness of the conjunctiva took place in a few minutes after the section. It has been already stated, continue these great authors, that a section of the branches of the fifth nerve which supply the eye, is followed by ulceration

and other signs of impaired nutrition in the eye-ball. But these changes do not take place for some time after the section of the nerve—generally many days elapses—and they are attributable to the presence of irritating particles which, owing to the insensible state of the conjunctiva, are suffered to remain in contact with the surface of the eye, giving rise to inflammation and ulceration of its textures. The effects of section of the sympathetic are *immediate*, and are probably due to a change produced in the blood-vessels, in consequence of the withdrawal of the accustomed nervous influence.

"We have now glanced sufficiently, we think, at the anatomy and physiology of the spermatic system of nerves, to make the application of such points as are pertinent in the solution of our pathological problem. In its anatomy, we have seen its connections with all three of the divisions of the fifth nerve by ganglia, the connexion of these various ganglia with each other, as well as with the cerebro-spinal axis; and lastly, the distribution of branches from these ganglia, which are conducted by the arteries into every part of every one of the splanchnic viscera. In its physiology, we find it in entire charge of the important functions of nutrition and secretion, and that wherever these processes are effected, it is by the agency of this nerve alone upon the blood-vessels. And further, we have seen that pathology and experiments on lower animals establish its indispensableness to the due performance of these functions, and that whenever the supply of its innervation has been cut off from a particular part of the organism, that part immediately manifests symptoms of *impaired nutrition* and *altered secretion*.

"Now we are all aware that nearly the whole of the intestinal canal, or rather that portion between the stomach and lower part of the colon, receives no direct innervation from the cerebro-spinal axis, but is entirely dependent upon the sympathetic nerve for its supply of nervous influence of whatever kind it may enjoy, whether motory, sensory, or secretory, and consequently an impairment of the function of this nerve must necessarily correspondently alter its condition so far as regards all those functions with which this nerve endows it. The alteration in these functions would, of course depend, in a great degree, upon the amount of impairment in the source of irritation; thus, as we have seen, if the supply is entirely cut off, the functions of the arteries seem in a great measure to cease, passive congestions occur, and the parts inflame and ulcerate. Now we can also naturally conceive of a condition of these nerves somewhat analogous to the above, yet intermediate between the entire in-

terruption caused by section, and perfect health—a condition of embarrassed or of exalted innervation. Now this intermediate condition is exactly the state which, from the developments of the foregoing investigation, we feel that we are authorized to affirm, is that which occurs in severe dentition, and that upon it is dependent the whole train of intestinal morbid phenomena observable during this process.

"That this, so far, is legitimately inferable, we do not think any one will deny. Now let us enquire how far these phenomena are dependent upon dentition; and *analogy* with the *excito-motory* system will much assist us in our argument. We have seen that local irritations can, through this system produce convulsions by the reflex function of the nerves, the *sensitive branches* of the fifth pair becoming *excitor* to the *motory* spinal nerves and so, may we justly infer, do these *same branches*, under certain circumstances, become excitor to the *secretory* filaments of the *sympathetic*, distributed so abundantly to the intestinal canal, by transmission of this irritation through the various ganglia with which it is connected. Thus the irritation at first produces simply an exaltation of the innervation of these secretory surfaces, and consequently secretion is more active than normal, producing simple *diarrhœa*. A continuance of the irritation, alters the *character* of the secretion, and we have the various morbid discharges observable during this period. This increase and *change in the secretion are effected by the agency of the altered function of the nerve upon the arteries from which these secretions are eliminated*. Now, when the innervation of these arteries is still further embarrassed by the long continuance of the *reflected irritation*, the state of things nearly approaches that observed in Dupuy's Reid's and Pourfour du Petit's experiments of actual destruction of the nerve, and we have ulceration of the intestinal mucous membrane; all these phenomena being the result of various degrees of injury sustained by the sympathetic nerve.

"It may here be asked, why should the branches supplying the intestinal mucous membrane become more implicated than any other portion of the sympathetic system?—and why do not similar irritations of the fifth nerve produce like results in the the adult? To the first of these questions we answer, that most probably the other portions are implicated, but the manifestations of such implication are greater and graver here than elsewhere, because these are the sole sources of innervation to the viscus, the other organs are in all probability implicated, but receiving a certain amount of innervation from other sources, most of their

functions not being entirely secretory, are still, though imperfectly, carried on. But in the intestinal canal the case is far different; the requisitions made upon it are of a nature that it has need for no other innervation than that of the sympathetic system. *Its functions are secretion and nutrition for the whole animal organism*, and when these are impaired, its primary, indeed its *only* intents are altered or completely nullified. The second question is answered by the greater development of this system in the growing than in the adult individual, for the purpose of supplying the more active nutrition and secretion at that time necessary. We know that disease is more apt to occur in many parts of the body during this period; this is the general admission. Thus according to many authors, among whom are West, Churchill, &c., pneumonia and bronchitis are more apt to attack children during dentition, than at any previous or subsequent period. Cutaneous eruptions, and many other aberrations of secretion occurring during this period, but serve to corroborate our theory of the organ of the morbid intestinal secretion. The increased vermicular action and tormina attending this affection, find a ready explanation in the fact, now well established, that the sympathetic receives both motor and sensitive filaments from the anterior and posterior roots of the spinal nerves, endowing the organs of their distribution, to a certain degree, with corresponding susceptibilities.

"In conclusion, let us define the position which, at the end of our investigation, we feel warranted in assuming. They are the following: that in the anatomy and physiology, as well as in the dependent analogies of the process of dentition, we find ample ground for the opinion that the diseases pertaining to this period, *may be dependent, and in many cases are entirely so, upon the local irritation attending the process being transmitted through either the cerebro-spinal system of nerves, producing convulsive diseases in the motory apparatus, or through the sympathetic, causing derangements in the secretory organs, particularly the alimentary canal, by the sway which it exercises over the arterial system, from which these secretions are eliminated.* And the practical deductions to be drawn from these conclusions are, —that we should not be remiss in taking every measure to arrest or lessen this local irritation, either by free and repeated incisions of the gums, or by the judicious administration of appropriate remedies, among which we have found opiates to prove most safe and efficient.

"It would indeed be an improving, and not an unpleasing exercise, to trace out more fully the connections between the local

irritation and the various diseases occurring during the period of dentition, to take more extended views of the abundant analogies and comparisons afforded by this truly prolific subject; but time and the special object of our essay, do not warrant the indulgence in speculations so general and discursive.

"Our object has been to trace the connection between this process and diseases in general, only in so far as it has a bearing upon the establishment of one principal question in reference to to the diarrhœa of this period. The subject has been only glanced at, and deserves a fuller and more extended treatise; wherein all the concomitant diseases of dentition, as *dropsy*, *eruptions*, and the many infantile neuroses, should be fully and carefully discussed. Such views, we would earnestly invite from some abler and more philosophic member of the profession."

(TO BE CONTINUED.)

MATERIA MEDICA AND THERAPEUTICS.

Pœonia Officinalis in the Convulsions of Children.—Dr. Livezey, in the *Boston Medical and Surgical Journal*, has the following remarks respecting the virtues of this plant in infantile convulsions:—

"This plant has been much used by the old matrons in this country, and with uniform success. A case not long since happened, that apparently proved its anti-spasmodic power. A child of 9 years had labored under convulsions daily, for several weeks. All the resources of the skill of three physicians had successively been exhausted without benefit, when 'Aunt Polly' happened to call in with a dried '*piney*' root in her pocket—one dose of which she administered, as above, and strange to say, that, *vel post hoc*, *vel propter hoc*, the convulsions ceased *instanter*. Were this an isolated case, my credulity would cause me to say that it was a *post hoc* result—a happy coincidence; but such results are too thickly scattered over this community to allow me to doubt of its remedial power. It certainly possesses peculiar anodyne, or strong nervine, powers; from the fact, further, that it will allay the nervous twitches, the subsultus, or the peculiar *startings* of infants during repose. In conclusion, I hope that the profession will throw aside prejudice in obstinate cases, and give this article a trial. The mode of administration is this: take of the dried root, grated, half a teaspoonful, scald it and

sweeten, and give the whole at once to a child 3 or 5 years old, *ter die.* To an infant, the same amount may be given in divided doses, during the day or 24 hours."

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2. *Glycerine as a vehicle, solvent or excipient in pharmaceutical preparations.* By W. LANDER LINDSAY, M.D.

I am indebted to the kindness of Mr. G. F. Wilson, of the firm of Messrs. Priee & Co., London, for a most elegant, and, I venture to predict, a most useful series of medicinal preparations, in which glycerine is the solvent basis. They are as follows:—

1. *Glycerine with Quinœ Sulph.*—1½ grs. to the fluid ʒi. A clear fluid, of a beautiful straw color, and intensely bitter taste.

2. *Glycerine with Quinœ Iodid.*—1 gr. to ʒi. A clear fluid, of a beautiful amber color, and intensely bitter taste.

3. *Glycerine with Ferri et Quinœ Citr.*—5 grs. to ʒi. A dull, opaque fluid, of a greenish yellow color, and strongly metallic or styptic taste.

4. *Glycerine with Ferri Iodid.*—5 grs. to ʒi. A clear fluid, of a beautiful lemon yellow color, and strongly ferruginous taste.

5. *Glycerine with Ferri Protocarb.*—8 times the strength of the Mist. Ferri Co. P. L. Opaque fluid, of a dark leek-green color, and pleasantly ferruginous taste.

6. *Glycerine with Ferri Ammonia-Citr.*—8 grs. to ʒi. Opaque fluid, of a dark iodine color, and slightly ferruginous taste.

7. *Glycerine with Ferri Perphosph.*—5 grs. to ʒi. Opaque fluid, of a milk-white color, and slightly ferruginous taste.

8. *Glycerine with Tannin.*—5 grs. to ʒi. Dull fluid of a greenish color, and intensely but pleasantly, styptic taste.

9. *Iodurettted Glycerine.*—A syrupy fluid of an intensely dark iodine color; apparently of greater strength than the ordinary tincture.

10. *Essence of Senna prepared with Glycerine.*—A fluid resembling in color and taste the best syrup of senna, such as that made by Duncan and Flockart of Edinburg.

11. *Essence of Rhubarb prepared with Glycerine.*—A fluid resembling syrup of senna or the above preparation in color, and having the peculiar bitter taste of rhubarb.

12. *Glycerine with Lemon Juice*—in the proportion of equal parts. Opaque fluid, of a pale milk-white color, with a pleasantly acidulous taste, and a strong flavor of lemon.

13. *Essence of Lemon prepared with Glycerine.*—A clear fluid, of a beautiful straw-yellow color, and with a delightful taste and flavor of lemon.

14. *Essence of Cinnamon prepared with Glycerine.*—An opaque fluid of a port-wine color, having a pleasant taste and flavor of cinnamon.

15. *Essence of Cloves prepared with Glycerine.*—An opaque fluid, of a dark reddish-brown color, having a pleasant taste and flavor of cloves.

All these preparations are like syrups. The solutions of the salts of quinine and iron are most elegant tonics, and very suitable for prescribing among the higher ranks of society; the combination with tannin has already been used as a styptic with success; iodurettcd glycerine must take the place of the tincture of iodine as an endermic application; the essences of senna and rhubarb are most suitable purgatives for children and ladies; the combination with lemon juice might, if sufficiently cheap, become of great service in the navy, and, as it is, it may with advantage be used in private practice as an anti-scorbutic and refrigerant; and the essences of lemon, cinnamon, and cloves, will doubtless become favorites alike with the pharmaceutist, the cook and the confectioner. Several of the above preparations, and others of a similar nature, have for some time been advertised by various enterprizing London druggists. Of these preparations, I may mention in particular the iodide and bromide of iron (dose about 1 to 2 fluid drachms,) the iodide of iron and quina, in solution in glycerine. Glycerine has been found as good a preservative of the metallic iodides as syrup, and I think is destined to supercede the latter as an excipient. *Iodurettcd glycerine* has also been lately much used. The *Medical Times*, in its notices to correspondents, recommends it to be made by dissolving 1 part of iodide of potassium in 2 parts of glycerine, and then causing this fluid to take up or dissolve 1 part of iodine. Ordinary solvents take up a comparatively small quantity of iodine, with the single exception of alcohol; and we have already seen that the tincture of iodine has several disadvantages, from which iodurettcd glycerine is free. The ethereal solution is much stronger and more effectual, an endermic application, than the tincture. It is sufficiently strong to blister the skin, and its action is attended or followed by severe pain. But it has the great disadvantage that the ether rapidly evaporates. In painting iodurettcd glycerine over bronchoceles, bubos, strumous swellings, house-maid's knee, or otherwise applying it endermically, it is recommended to cover the affected part with gutta percha sheeting, oil skin, or some such material. This is not so much to prevent evaporation, as to prevent the liquid being removed by and staining the clothes of the patient, or the bed-

clothes, if he is confined to bed. In this strong, or concentrated state, ioduretted glycerine has been used with success in lumps. The applications of glycerine in pharmacy are only being slowly developed. There is strong ground for believing that glycerine will ere long supersede, in many cases, alcohol and syrup, as solvents or excipients, in pharmaceutical preparations.—*Edinburgh Medical Journal.*

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2. *Lupulin in Affections of Urinary Organs.*—Dr. Herzfelder, physician to the Jewish Hospital in Vienna, places great reliance in this drug in inflammatory and painful affections of the urinary passages. Administered in doses of from one to two grains six times daily, he finds that it diminishes the increased sensibility, and allays the pain, without producing stupor, cerebral congestion, or constipation. Its virtues in spermatorrhea first induced him to make trial of its powers. He has found also that, in less doses, it is the speediest remedy for curing nocturnal enuresis in children.—*Zeitschrift der Gesellschaft der Aertze zu Wein*, 1856. 3 and 4.

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3. *Hyosciamin.*—Professor Schroff details some experiments which he has been making with the essential principle of henbane. He considers that it will be serviceable as a sedative for cough, and as a means of procuring quiet sleep. As a hyponetic, it is inferior to morphia, especially when the sleeplessness is owing to severe pain; but, unlike that drug, it promotes rather than retards the action of the bowels. He recommends its administration (mixed with powdered sugar,) in doses varying from one-sixtieth to one-twentieth of a grain is too large a dose. It has one very curious property, viz: more power in producing dilatation of the pupil than any other drug with which we are acquainted. There is no medicine which has sueh a rapid, intense, and continued action upon the iris. It is distinguished from atropin and daturin in being very soluble in water, which renders its application in the form of solution less irritating to the eye than daturin and atropin, which are only soluble in alcohol. If the solution of hyosciamin is intended to be kept for a considerable length of time, it is well to add a little alcohol to it, to preserve it from losing its virtue. The formula for such a solution given by Schroff, is one part of hyosciamin, ten parts of alcohol, and one thousand parts of water.—*Wein Wochenblatt*, 25–27. June, 1856.

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4. *Nitrate of Silver in Infantile Cholera.*—Professor Mauthner

places reliance on no other remedy in urgent cases of cholera in children. He orders an enema, every hour, of 2 grs. of the salt in ʒj. of distilled water, with a little oil; and he simultaneously administers, every four hours, a tablespoonful of a solution of 1 gr. of the nitrate in ʒij. of aq. distill. The children take this mixture easily, and seldom vomit. The author admits that in advanced cases, where the constitution of the blood is changed, even this treatment will be of no avail.—*Journal fûr Kinderk*, 5 and 6. 1856.—*Edinburgh Medical Journal*.

PART III.

EDITOR'S TABLE.

MEDICAL EDUCATION.

Suggestions relative to an American System of Medical Instruction.—The medical Education of those entering into the profession in our country is obtained by a course of reading in the office of the Physician, and by attendance for one or more terms upon the lectures of a medical school. The first is properly regarded as preliminary to the second, and it is too true that as is the material sent forth from the office, so will be the character of the work finished by the school. Consequently many of the evils which are supposed to emanate from a laxity on the part of the schools, more properly have their origin in the preliminary course of the student. Thoroughly examined it will be seen that there is a radical defect in the preliminary training of our medical students. Seldom is it that young men, as incompetent as they may be found to be, are advised to engage in some other pursuit, or at least to devote more time to their literary education before taking up their medical studies. We have known young men who were incompetent to write a legible hand—much less to put sentences together to form a passable composition—who knew nothing of the geography of the globe, much less of the agencies which are at work changing its surface and altering its physical aspect—whose knowledge of human history was as defective as that belonging to natural, assaying an entrance into the *Temple of Medical Science.* Some of these we have seen stumble at the first stepping stone, of whom a few gave up in despair, but others under "the force of circumstances" were dragged up till they had reached a point at which their peers

deemed them qualified to receive the reward of their application. When if there had been a guard thrown around the initiation of such into the office of the private instructor, a countless host of grievous evils reaching far into the future of each pupil, might have been everted. There is a laxity here then which first of all needs correction. As matters now stand, office instruction consists almost exclusively in a course of reading upon which the student is seldom examined, the object being to perform such an amount before the time arrives for his entrance into the Medical Hall. Three-fourths of the offices in our land afford no advantages for anatomical demonstration, no clinical instruction—no experimental illustrations of chemistry or pharmacy, but as rapidly as one book is read through, another is designated as the next in order. Thus are the two years spent, and so wide is the difference between this preliminary course, and that which is to follow in the medical school, that, to all intents and purposes, it is a new study to him. There is a reform demanded in office instruction, as well as in preliminary education, and if secured, the evils growing out of the medical schools will be more than half rectified. But there are defects here too, referring both to the duration of attendance and to the mode of instruction.

Seven Professors, during the brief period of four months, attempt to impart a full course of instruction in the medical sciences to students, a majority of whom have scarcely learned the alphabet of the sciences. The young man, if he is one of a discriminating mind, finds too, that so extensive is the course of study and so short the time allotted to this part of his medical training that all that he can possibly do is to open wide his mouth and take in all that is given him without one moment's time for reflection or digestion. So that by the time the course closes, if he has attended punctually and listened attentively, he is literally *crammed.* To this he may, if a sensible young man, demur, but he is told that this part of his education is but preliminary —that he is to learn of the depths and of the mysteries of the science in after years of study, observation and practice. He is in fact taught that certain motions must be made to learn the art of swimming, but is not permitted or has not the inducement to

venture out into deeper water that he may learn it *ipso facto*. He passes through his two courses, presents his two sets of tickets as his credentials, stands a *sham* examination, and is bowed from the *green room* virtually an M.D.

This slight glance at the office and college instruction serves to show enormous evils—which we will proceed to enumerate.

1. A certain amount of preliminary education should be required of the student before being admitted into the office. His English education, including the mathematical and natural sciences, should be thorough and complete. There is no excuse for a failure in this. Deficiency in it shows a want of energy and application. As to the ancient and modern languages, so essential, and so useful in the successful prosecution of a science which is *based* upon them—deriving all its technical terms, and scientific appellations from them, it is not so convenient for all to obtain a knowledge of them in early life, though we have never yet known the physician who has attained any eminence in his profession who did not before succeeding, find it necessary to do so. Wkile therefore we admit that a knowledge of Latin and Greek may be dispensed with, yet it is highly important for the honor and dignity and successful progress of the science of medicine that the student should have been thoroughly trained *in all the branches of an English education, including the mathematical and natural sciences.*

Reform should begin here. Let there be an established rule that before entering the office of the Physician he must satisfy his preceptor of his previous educational training, either by a letter of proficiency from his teacher, or by undergoing an examination.

2. Office instruction should be more thorough than it is. As now generally pursued, it is not so exacting of its pupils, as is required of the apprentices who are learning any of the trades. Books are placed in their hands and they are told to read. So far it is well enough. The man who becomes the private instructor of a youth incurs a responsibility, which is not satisfied with a mere course of reading. It requires him to see that the mind of his pupil imbibes no error, either of doctrine or precept.

It requires him to direct the mind of his pupil in the proper application of the correct theories of medical science to medical practice. The office is generally the only opportunity which the student possesses of learning the art of compounding medicines and of putting up prescriptions. This responsibility requires of the preceptor also to see to it that his pupil acquires a habit of accuracy, neatness and despatch in such things. Office instruction implies an opportunity of witnessing the treatment of such surgical and medical cases as might be done without impropriety, and such rigid examinations upon the points presented in the cases as will lead the pupil to close attention to the instruction of his preceptor while diagnosing the case, and prescribing for it. Such opportunities present themselves, and the pupil has a right to require the benefit of them from his preceptor. But how often is it that he derives no such good during his pupilage.

Before entering upon his medical course, the pupil, having qualified himself as set forth in our first point—should select that physician as his instructor, whose previous medical training has been thorough, for if *his* knowledge of medicine has been defective, it is useless to expect him to impart what he has never learned. Next to the proper qualification as an instructor, seek to know what are the advantages to be enjoyed in his office. Has he such a library as would indicate him to be a student himself—keeping pace with the progress of the science? Is he devoted to his profession—and will he give such attention to me, and such direction to my studies as will enable me to derive the full benefit from his office?

Thus the student should canvass the pretensions of those aspiring to be teachers in medicine. We have said nothing of the amount of the professional confidence enjoyed by the preceptor in the community in which he lives. This should be no inducement, for it has happened that the most extensively employed physicians have been those whose own preliminary education has been very superficial and whose success in practice is the result of the caprice of the public. Shun such men as teachers; knowing nothing beyond a mere routine of practice, they are incapable of imparting the instruction you should possess.

3. The length of time for study in the office of the physician is not adequate. It is an *off and on* six months course, as most generally practiced. As the first element in the system therefore which we are about to propose we would say, require *one entire year of study in the office of the physician before he is permitted to matriculate in a medical college*, and then require a certificate from his preceptor stating what branches he has studied and been examined upon—what his proficiencies and deficiencies before admitting him as a first course student to the medical college. Let his transition from the office to the college be just the same as that of the undergraduate from the academic schools to the college, it being understood that his course of instruction under the preceptor bears the same relation as an elementary course. Thus trained and made familiar with the first principles of the science, he is prepared to enter the halls of the medical college with profit to himself and honor to his preceptor.

Stating therefore these three points, we will resume the subject in our next.

1. The student before being admitted into the office, should be well and thoroughly grounded in all the branches of an English education.

2. The preceptor should be well qualified to discharge the duties of an instructor. No physician should be selected by the young man who is himself incompetent.

3. One entire year in the office of a qualified instructor—and before being admitted to the medical college, a certificate stating truthfully the branches studied, and the proficiencies of the pupil.

Thus qualified by one competent (apt) to teach, we introduce the student to the medical college as a first course student.

OUR SUBSCRIBERS

Are kind and clever, at least some of them—we believe all of them are, but do hope that those of them who are permitting their indebtedness to lie over uncancelled, some for one, others

for two and a few for three years, would remember to what losses they are subjecting us, the editor. For the publication of this Journal we are monthly incurring an expense of One Hundred Dollars. We have more than enough subscribers to pay this, if they will pay up. Failing to do so, they disappoint us, and throw us on our own resources. We have now waited six months on about two hundred and fifty subscribers—we claim consequently the advance of one dollar on our subscription price. The accounts enclosed we hope will be attended to, and remittances promptly made. If not, we must confess that you have gotten the advantage of us. But we would be sorry to know that any one of those for whose benefit we have been laboring for one year should be placed in such a category.

It was formerly the custom of Publishers to insert a full list of all subscribers to works of merit issued by them, so that it might be seen who were their patrons, and it is a practice even pursued by some houses at the present day. In accordance with that custom we purpose publishing in the December number of this volume vi. a full and complete list of all the patrons of this Journal from its origin in 1853 up to that date with offices attached, and the amount of their subscription *paid in*. After the issuing of that number, the Journal will not be sent to any but those who have paid in advance.

COMPLIMENTARY NUMBERS.

We frequently send out copies of our Journal to those who are not subscribers, solely for the purpose of introducing ourselves to them. Such copies are generally marked *complimentary*, and as such names are not on our books they need not fear being placed there unless by their request, *accompanied with the cash*. We say this to relieve the fears of a few who have returned such complimentary numbers.

Our Journal is ourself with our contributors on monthly visits to the consulting rooms of the profession. We ask for it the same courtesy which we would expect were we to present ourself

in propria persona. Our errand is one of a professional character, and so long as we maintain the honor and dignity of our noble science we are entitled to your respect and courtesy.

MEDICAL GOSSIP.

—— *The Liquor Trade.*—What villianous compounds are offered now-a-days in the drinking saloons! The recent exposure made by the chemist, appointed by the State of Ohio to examine into the liquor manufacture of Cincinnati, is enough to startle the most inebriate. He shows that besides those other drugs with which it has been the custom for a long time for the manufacturers to adulterate their liquors, such as alum, logwood, cochineal, india berries, oil of vitrol, &c., they have also recently adopted that of *strychnine.* His statement was to the effect that in one cask of liquor examined there was enough strychnine to poison twenty men.

The attention of our citizens, here in our quiet city, has lately been directed to this subject from the character of a suit which came up before the last circuit court of Knox county. The defendant, who had been engaged in the retail of liquors at his country store, resisted the payment of a bill of wines, brandies, &c., which he had ordered on the ground that they were not what they purported to be—that on the contrary they were base adulterations, not possessing a particle of the juice of the grape. Accordingly James Jackson, chemist of the firm of Bearden & Jackson was called to make an analysis of them, and below we give his testimony as offered in court.

He has furnished us the following analysis:

The specimens examined were claret wine, port wine, brandy, Scotch whisky and gin.

1. *Claret Wine.*—The specific gravity of this so-called wine was .993 and gave with the usual tests unmistakeable indications of alum, cochineal and cane sugar, three articles which are not to be found in the genuine wine, the small quantity of alcohol or spirit it contained being barely sufficient to keep it on exposure from moulding, a little flavoring and water making up the balance of the compound.

2. *Port Wine.*—The specific gravity of this is 1.145 or nearly so, while the genuine wine according to the authority of Ure is .972. Filtering the specimen

brought to me for examination, from ½ pint I obtained nearly one forty-third of an insoluble something, which proved on examination to be exhausted logwood, brazil wood or saunders what had been used in the coloring of the "wine." Alcohol, water and sugar making up the balance of a compound that the most inexperienced wine tester would pass by as neither "crambey or crasty" terms often used by wine judges.

3. *Brandy.*—Every known test was used for wine spirit which genuine "French brandy" ought always to contain; but no reaction could be obtained: on testing for corn spirit decided reaction was exhibited, proving that the so-called brandy was nothing more nor less than whiskey colored and flavored with the "oil of cognac."

4. *Scotch Whisky.*—So far as the writer is acquainted with the taste and smell of this article he has no hesitation in saying that it has but little resemblance to genuine "mountain dew."

5. *Gin*—being an article for which every manufacturer has his peculiar process and receipt, nothing can be said in this article.

The above specimens however are no worse than much of the "wine and brandy" sold in every section of the country, and there is little doubt that more of these articles are sold in the United States alone, than the whole of the wine growing districts of the world can supply with the genuine articles.

But it seems the action did not turn on the character of the liquors, for judgment was rendered against the defendant.

—— *Medical Education in Nashville*, is likely to become as important an element in her renown and for her prosperity as in Philadelphia. The Nashville Medical Department at the close of its sixth session numbered 419 students, of whom she graduated 137. When it is remembered that of the faculty not one had, at its beginning, even filled a professorial chair, except Prof. Eve, who came in the second year, it must be truly gratifying to them to see the full fruits which their enterprise is ensuring to them. This school has contributed in no small degree to the present prosperous condition of the city; these 419 students having been worth pecuniarly to the city, at the least calculation, $100,000 during the last winter term. Nothing else for the same period paid so well into the pockets of the citizens. Every man, woman and child felt it. And the citizens of Nashville know so well how to appreciate the importance of this Institution that it is cherished and looked to with pride. We will be very much mistaken if its success does not pave the way for a rival school "some of these days"—and why not? Another school would only serve to increase the importance of the place as the great medical centre of the South. We do not believe that it would affect the prosperity of the other school one particle, but

per contra would benefit it just in that proportion that the medical educational facilities will be enhanced and extended. And the advice that we would give both to citizens and professors is, not to oppose such a project should one be contemplated. For while opposition *would not* put down a new organization if undertaken by men of the right calibre, it *might* act with a reflex influence. But we find ourselves straying off from what we designed, in the onset, to say, that the Nashville school now stands at the close of its sixth session *third* among the medical colleges. Nashville will justly be proud of its school when it has reached the front rank and stands at the head of the list. This might be accomplished with its one school—it certainly would be were there another located there. One thing has yet to be done, and it would be as well for the Nashville school to be awake to its importance. They do not possess such Hospital advantages as are enjoyed in many other places. But the rapidly increasing population of the city, now numbering at least 30,000 inhabitants, is evidence of what can be afforded in this respect if the proper exertions were made. There is, it is true, the *Tennessee Hospital*, but it is not on that scale commensurate with the high position attained by the Medical Department. We believe it is under its control, consequently no stone should be left unturned to fill its wards, and render it a clinical school of the best quality.

—— *Medical Journals.*—Of the English Medical Journals there are re-printed in this country *the Medico-Chirurgical Review*, by S. S. and W. Wood, of New York, a review which possesses a world wide reputation. Every physician should have it. *The London Lancet*, we believe is re-printed by Stringer & Townsend, of New York, though of this we cannot speak advisedly, as we have not seen a copy for several years.

Braithwaite's Retrospect of Practical Medicine, re-printed by Stringer & Townsend of New York—two numbers during the year, one dollar each, a treasury of all that is really good and valuable in medicine and surgery gathered from all nations.

Rankin's Abstract, the publisher of which we do not know.

Then there is the *Medical Times and Gazette* of London—

published weekly at $10 per annum—in our estimation the best of the British Medical Journals—one third of the extracts of medical intelligence being from that periodical.

The Glasgow (Scotland) Medical Journal is another high toned, dignified and valuable medical Journal—deserving of a more familiar acquaintance on this side of the Atlantic. The January No. has been received.

—— *Sore Nipples and Mammary Abscess.*—In the Bellevue Hospital Reports for the *American Medical Monthly*, we find the following appropriate treatment for these distressing affections:—

"The sore nipples yielded generally to the following method of cure: Whatever the form, if decided inflammatory action was going on around it, this was first subdued by an emollient poultice. If then the case was one of *fissure* around the *base* of the nipple, this was carefully cleansed, and touched with a solution of arg. nitrat. (gr. x. to aq. ℥j was usually found to be sufficiently stimulating,) and this covered with glycerine, or with tr. benzoin co.; the latter was generally preferred, as forming a cuticle, which, unlike that of collodion, can be dissolved by the secretions of the child's mouth. One such application was in many cases sufficient. If, however, the soreness consisted in a tendency to *ulceration* on the *top* of the nipple, much irritated by the child's nursing, a solution of tannin (gr. v. to aq. ℥,) kept constantly applied on pledges of lint, and washed off before sucking, was generally effective in producing a speedy cure. The third form which presented itself was that of *eczemas*, for which an ointment of ung. aq. rosæ. ℥j, calomelanos ʒj, magnesiæ carb. ℈ij, misce intime,* was prescribed."

"The cases of mammary abscess, or rather inflammation were treated as follows: As soon as symptoms of inflammation began to declare themselves, as constitutional disturbance, local tenderness, weight, distension, hardness, the bowels were put in a soluble condition, the integuments of the breast were made soft and flaccid, (thus diminishing greatly the tension,) by means of fomentations of cere cloth, (composed of beeswax and sweet oil, melted together and spread on cotton,) kept constantly applied, to the nipple, and by frequent gentle frictions of the organs, from the circumference to the centre, with a warm camphorated oil,—this latter with a view also to inducing absorption, and thus preventing "caking." If the secretion of milk was very abundant and the state of the nipples contra-indicated nursing, in ad-

* The apothecary should have particular directions to rub these ingredients together very thoroughly, otherwise the ointment will contain small, gritty particles, which will prove a cause of no small irritation.

dition to a cautious use of the breast-pump, (Needham's patent, with the elastic nipple-piece, is found to be the only reliable one,) a belladonna plaster was applied to the centre organ, a hole being left for the nipple, or the tincture of belladonna was added to the camphorated oil, which means rarely failed to check it in from one to three days. In two cases where it was considered advisable to dry up the secretion entirely, this was effected by small and frequently repeated doses of the same article in the form of pills of the extract, internally. But three cases went on to suppuration, and of these one was an anomalous case, occurring three months before confinement."

—— Will Dr. Dixon of the *New York Scalpel* allow us to correct a slight error which occurred in his notice of the American Medical Association. It was *Dr. Boring* of the Atlanta Medical College who introduced the resolutions alluded to, and not Dr. Bowling of Nashville. We know that Dr. Bowling favored our resolutions, which Dr. Dixon has had the pleasure to term "manly," and contrast them with "several bless God, bless devil ones which had preceeded."

We read our resolutions to Dr. Bowling, before they were introduced, and he assured us that he would second and sustain them. He was prevented from doing this by the discussion which followed and which was cut short by Dr. Hooker of Yale College seconding our resolutions and calling for the previous question, when the resolutions were adopted almost unanimously.

—— *Chloroform* was used at the accouchment of Queen Victoria—the labor being more lingering than in any of her previous confinements. The first symptoms of labor manifested themselves on Monday evening. On Tuesday at 11 A. M., chloroform was administered which after some time appeared not only to relieve pain but also to retard labor, and it was discontinued for a time. It was repeated at intervals, and the princess was born at 45 minutes past 1, her majesty not being in a state of total insensibility, although unconscious of pain. So says the *Medical Times* of London.

—— Prof. Boring of Atlanta Medical College in his Introductory Address deals heavy blows on the *use of tobacco*. The

subject of his address was the use and abuse of tobacco—and from the gloomy picture which he draws of the practice of *dipping* by females, it is hard to conceive how any one guilty of it will expect to be forgiven in the world to come. At least he thinks a union with such a woman would wither the man's "prospects for all time to come and embitter the cup of life."

—— R. D. Powell, M.D., of Brunswick county, Va., in the *Virginia Medical Journal* for June reports the Hospital *Treatment of Yellow Fever* in New Orleans. He says that the first thing ordered was a hot mustard foot bath, secondly, the infusion of orange leaves to be drank freely, and repeated frequently during the attack. As a purgative, oil was almost universally used, commonly combined with laudanum in proportion of 20 drops to one ounce of the oil, to be taken as soon as the patient gets to bed and becomes a little quiet. For cerebral symptoms ice was freely applied to the head. Local bloodletting, by cupping and leeches, was liberally practiced—some physicians used the liquor ammoniæ acetatis in place of orange leaf tea. This was the simple plan of medication.

—— Dr. Abernethy, the celebrated physician, was never more displeased than by hearing a patient detail a long account of troubles. A woman, knowing Abernethy's love of the laconic, having burned her hand, called at his house. Showing him her hand, she said, "A burn." "A poultice," quietly answered the learned doctor. The next day she returned, and said, "Better." "Continue the poultice," replied Dr. Abernethy. In a week she made her last call, and her speech was lengthened to three words, "Well. Your fee?" "Nothing," said the physician, "you are the most sensible woman I ever saw."

—— Funeral Sermon.—*The Largest Man in the World!* —The funeral sermon of Mr. Miles Darden, who died at his residence in Henderson county, will be preached on the 4th Sunday in this month, five miles South west from Lexington, Tenn. The Masonic fraternity will be in attendance, in full regalia, on the occasion.

The deceased was, beyond all question, the largest man in the world. His height was *seven feet six inches*—two inches higher than Porter, the celebrated Kentucky giant. His weight was a fraction over *one thousand pounds!!* It required seventeen men to put him in his coffin. Took over 100 feet of plank to make his coffin. He measured around the waist six feet and four inches.—*West Tennessee Whig, June*, 1857.

TO AUTHORS AND PUBLISHERS.

We are indebted to the authors and publishers for the following books and pamphlets:

Physiological Anatomy and Physiology of Man. By R. B. Todd, M.D., F.R.S., and Wm. Bowman, F.R.S. Blanchard & Lea, Philadelphia, 1857. (From the publishers through W. T. Berry & Co., of Nashville.)

Urinary Diseases and Dropsies. By R. B. Todd, M.D., F.R.S. Blanchard & Lea, Philadelphia, 1857. (From the publishers through W. T. Berry & Co., of Nashville.)

Notices of the two foregoing works were given in the last number.

A Pocket Formulary and Physicians Manual. By Thomas S. Powell, M.D. Sparta, Georgia. Savannah: W. T. Williams. 1855. (From the author,)

This is a convenient and useful pocket manual. It is bound in tuck form, and may be taken very conveniently by the physician in his side pocket for reference. It embraces the art of combining, as well as prescribing, and in a small space presents many valuable receipts, tables, &c., containing also the code of ethics of the American Medical Association.

Address delivered at the opening of the second Session of Oglethorpe Medical College. By J. W. Benson, M.D., Professor of Surgery. 1856.

We had the pleasure of forming Dr. Benson's acquaintance at the meeting of the American Medical Association, and were pleased with the manliness and dignity with which he resisted the protest which was offered to exclude himself and colleague

from the Association on account of alleged irregularity in his school. The matter was referred to a committee and the protest laid on the table.

This address of Doctor. B. is well written—filled with choice illustrations, and of a pure classic style. One extract: "But no voice can be louder than that of science, speaking through the dust and ashes of departed centuries, and by handwriting upon the wall, warning us to listen to the voice of wisdom, and live for each other whilst living for ourselves."

Are Mercurials Anti-Syphilitics? By C. H. Cleveland, M.D., Cincinnati, Ohio. 1857. (From the author.)

The authorities quoted and the testimony adduced by Doctor C. are strong and to the point on this subject. We are not prepared, like him, to discard them entirely from practice in syphilitic diseases, yet we believe also that often better remedial agents can be substituted. The *kalmia augustifolia* and *kalmia latifolia* are believed by him to be far preferable.

Imponderables. A Lecture by C. H. Cleveland, M.D. Cincinnati, Ohio. 1857. (From the author.)

Valedictory Address to the Students of the Medical Department of the University of Nashville. By Thomas R. Jennings, M.D., Prof. of Anatomy. Nashville. 1857.

There are many things in this excellent lecture which we like, especially Doctor J's. notions respecting reform in medical teaching. That it must be a work of time, it is true, but it must come, or such a degradation awaits the profession in this country that will be productive of the saddest results. Doctor J, says "that he and his colleagues are eager to co-operate in any work of educational reform which the medical public of our Union may suggest." Although this last was only Doctor J's. second course of public medical instruction, yet for more than twenty years his office has been thronged annually with private students, and he has thus had it in his power to impress the medical mind more effectually than any other physician in the city of Nashville. In this address he advises each one of his graduating class to become

active and efficient collaborators with the professors in the reform of teaching by becoming teachers themselves.

In securing the services of Dr. Jennings, the University of Nashville may consider itself as being fortunate, for as a man of Science, a general scholar, and a successful practitioner he has few equals.

Lecture on Traumatic Tetanus treated with chloroform, delivered at Jackson Street Hospital. By H. F. CAMPBELL, A.M., M.D., Prof. of Surgery and Anatomy Medical College, Ga. Augusta. 1857.

Any new light thrown upon this generally fatal and distressing affection is deserving of careful and attentive consideration.

Dr. C. reports three cases in which he used the chloroform with evident advantage.

Case 1 is translated from the *Revue de therapeutique Medico-Chirurgicale*, Paris, and was that of a little girl whose left thigh had received considerable injury. The following prescription was ordered:

℞. Chloroform . . . . ℥iss.
Ext. opii gum. . . . . gr. 1.
Aqua laur. ceras. . . . ℥iij.
Aqua flor tilliæ . . . . ℥xiv.
Syr. Acaciæ . . . . . ℥iss.

Mix. Dose. Teaspoonful every two hours. This with chloroform inhalations, tepid baths and vapor baths, were effectual in overcoming the disease.

Case 2nd was that of a negro boy aged 40 who was injured in the right hand, rendering amputation of two of the fingers necessary.

Chloroform in combination with camphor and sulphate of morphia, failing to afford relief, quinine and carbonate of iron were employed and that too successfully in relieving the tetanus, but the patient died on the 23rd day after receiving the injury. As Doctor C. remarks he "died cured."

Case 3rd. A young man aged 22 seems to have been a case of idiopathic tetanus. No injury appears to have been received, but on the contrary exposure to the epidemic influence of that

year (1855.) For a few days he was treated actively with mercurials, quinine, and purgatives; cupping to nape of neck; sinapisms all without avail to relieve the twitchings of the muscles, and their rigidity. Doctor C. then prescribed the following:

℞. Chloroform . . . . . ℥ss.
Syrup gum arabic . . . ℥viiss. Mix well.

Dose. One teaspoonful every two hours. As this afforded but little relief, Doctor C. then gave the following:

℞. Chloroform . . . . . ℥j.
Sulphuric ether . . . . ℥iij.

This was inhaled in two drachm doses with a happy effect, the patient falling to sleep. This mixture, in conjunction with brandy and laudanum was used throughout, the patient finally recovered. Over two quarts of it was inhaled.

A claim of Priority in the Discovery and Naming of the Excito-Secretory System of Nerves. By Henry F. Campbell, M.D., Prof. of Comparative Anatomy in the Medical College of Ga. Augusta. 1857.

We are glad to see the palm of victory so deservedly won and so happily borne off by Dr. Campbell. As the discovery is one of importance we will re-publish a large portion of this scientific production, desirous of placing upon record on the pages of our Journal a discovery so important, and which reflects such credit upon the discoverer.

A Sketch of the Geology of Tennessee, being a Description of its Geological Formations, Mineral Resources, Agricultural Geology, and Palæontology. By Richard O. Currey, A.M., M.D., Knoxville, Tenn. Kinsloe & Rice. 1857.

The foregoing work has recently been issued and is accompanied with a large geological map. It will be sent *free of postage* for One Dollar per copy by application to the author or to J. A. Rayl or Hanigan & Co.; Knoxville, Tenn., W. T. Berry & Co., Nashville Tenn.; J. B. Lippincott & Co., Philadelphia, Pa.

RECOMMENDATIONS OF THE PRESS.

The author is well known as an accomplished scholar, and an enthusiastic devotee of the science of geology, and this contribution to the geological history of Tennessee from his pen will be gladly received.—*Nashville (Tenn.) Banner.*

The name of Dr. Currey is familiar with most of the people of this State, as an industrious student of the Natural Sciences. This contribution is plain, short and practical. To the man of science, the practical miner, and the farmer, it will be of great service. We are pleased to see any exertion especially on the part of our citizens to develop and bring to light the hidden treasures of our favored State.—*Nashville (Tenn.) Patriot.*

The book will be found an interesting and valuable description of the geology and mineralogy of our State, and has been much complimented by the press abroad.—*Knoxville (Tenn.) Register.*

We have recently received this excellent work and cannot give it higher terms of praise than we have done by copying, as we have, on our first page, a long extract, to which we would invite attention, on account of the practical usefulnsss of the same, both to the farmer and mechanic.—*Bristol (Tenn.) News.*

On account of the practical usefulness of this work, both to farmers and mechanics, it should be in every family. It is small, clear, comprehensive and cheap.—*Brownlow's Knoxville Whig.*

Every man in East Tennessee should have a copy. We know not the price, but let it be anything in reason, land owners and cultivators of the soil would find it money well spent.—*Maryville East Tennessean.*

A valuable aid in the development of Tennessee's vast resources, and interesting to any one who is identified with her prosperity.—*Southern Clarion, Cleveland, Tenn.*

The marble, iron, copper, gold and coal of this section (East Tennessee) are noticed at considerable length and in an interesting manner.—*Presbyterian Witness, Knoxville, Tenn.*

Currey's Geology of Tennessee.—Some weeks since we published a very interesting and valuable paper *On the Geology of the Copper Region of East Tennessee*, by Richard O. Currey, M.D., late Professor of Chemistry and Geology in East Tennessee University. We have now received from J. A. Rayl, Publisher, Knoxville, a work bearing the above title, which furnishes us a very full report on the general geology of Tennessee. The author has so well fulfilled his pleasurable task, that we shall look forward with impatience to the publication of a work announced by him on the *Geology of the Southern States*, and which will most probably be ready in October next.—*United States Mining Journal, New York.*

Our old citizens remember, many years ago, to have met now and then, "up in the mountains" of East Tennessee, or on the fertile plains of the Western District of the State a pale stripling breaking rocks at the feet of Tennessee's geological Gamaliel, the lamented Troost. The boy ripened into the fully matured man, and the first fruits of a thorough and protracted culture is the modest volume before us. It is but the nucleus around which gems will cluster, until exterior accretion shall result in a product of which a great State may well feel proud.

Indeed there is so much practical information in this little work, that no one can read it without wishing it a place in every library in the country, and we think it the duty of the entire press of our noble State to promote its diffusion. We hope the author will make it accessible to the entire people of the State through book-sellers generally.—*Nashville Journal of Medicine and Surgery.*

OBITUARY RECORD.

DR. JACK SHACKLEFORD.

The Alabama papers announce the death of the gentleman whose name heads this paragraph. He died at Courtland, Alabama, on Tuesday, February 17th, 1857, in the 66th year of his age. Dr. S. participated in the Texan struggle for independence, and achieved a name for gallantry truly enviable. He was captain of that fatal band of patriots under Col. Fannin which was defeated at Goliad and massacred by the bloody tyrant Santa Anna. His life was spared because he was a physician. that his services might be made available in the Mexican army, He remained a prisoner for some time, we know not how long, but returned finally to his old home. Dr. Shackleford served several years in the Alabama Legislature.—*Exchange.*

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PART I.

ORIGINAL MEMOIRS AND CASES.

ART. VI.—*Of the modus agendi of Remedial and Noxious Agents upon the living body; and of its different surfaces suitable for their application, and necessary for the exercise of their respective properties.* By JAMES OVERTON, M.D., Nashville, Tenn.

The quo modo, of the curative or noxious action, of remedial or other substances, introduced into the stomach, is a question, which, until recently, has obtained but partial examination by the medical profession. And, of consequence, this very important question has heretofore received a greatly imperfect and indefinite response from authors; most of whom have but incidentally and with little satisfaction written upon the subject.

It is difficult to regard this question in any other light, than one of much interest to the medical profession; and, to the afflicted, who are the subjects of its daily exercise. We have cause for regret, therefore, that its special examination has been omitted, until a period so late, in the history of the healing art.

Recent attention has however, been specially directed to this subject of enquiry; and has terminated in the development of

facts, and the establishment of conclusions, which must, as a necessary consequence, produce some prominent and valuable modifications, in many of the therapeutical processes of the practice of medicine.

This bygone deficiency, in the investigations of medical men alluded to above, seems indeed, to have been supplied in a very satisfactory manner, by the laudable and recent observations and experiments of the profession, directed specially to this subject. These observations and experiments have resulted, it is thought, with reliable accuracy in the establishment of the following facts and conclusions:

They appear to be confirmed, by competent and sufficient evidences and may hence be considered, as settled and fixed facts—as points d' appui—as starting points, from which the future investigator may set out towards the ascertainment of other important and correlative facts and conclusions, in regard to the *modus agendi* of remedial agents; and to the most efficient and safe methods of their application, in the treatment of diseases.

We shall *assume* therefore, without reciting the ample testimony which exists for their support, the following facts, as established:

First, that all, or most remedial substances taken into the stomach, exercise their active properties upon the body, by being absorbed by this viscus into the general circulation; and carried by the agency of the general circulation into contact with the parts, to be affected by their remedial or noxious properties.

Second, that for the accomplishment of this application to diseased or sound parts, to be influenced by them, these remedial or noxious agents, must be administered in a fluid state; or be capable of solution, by the action of the surfaces to which they are applied—and, that those two conditions are indispensible, to the exercise of their remedial properties upon the whole, or parts of the system, at a distance from the point of their application.

From these facts as distinctly ascertained by experience and observation, an important inference is clearly deducible. It is reached by a simple process of logic, too severe it is thought to allow of any disputation. If the facts be established, the infer-

ence is inevitable—it stands or falls, only with the facts and experiments, &c., and upon which it depends. The inference is this—and is, but little less practically valuable, than the experiments, observations and conclusions from which it is drawn. The results of recent experiments and observations, have been stated above—the inference is, *that all other surfaces* of the living body, similarly endowed, with the faculty of solution and absorption, or with that of absorption alone, are also entitled to serious regard, as suitable recipients of remedial agents designed to influence the system, or parts at a distance from the surfaces to which these agents are applied. Of these surfaces, the skin, the lining membrane of the lungs, and the mucous surface of the lower division of the intestinal canal, extending from the anus to the ilio cæcal valve, claim rightfully the greatest regard. This view of the subject, which it appears difficult not to admit as just, disrobes the stomach of a good share of the preferences heretofore bestowed upon it as the almost exclusive recipient of remedial agents; and gives to the surfaces, a value in this respect, which until now has been overlooked, or disallowed by the practitioners of the medical profession. And it is with the design of enforcing the above view of this heretofore erroneous neglect, of surfaces of the body, other than the stomach, as recipients of remedial agents, that it has been deemed not without value, to append to the thoughts already suggested the following essay, upon one of the surfaces noticed above, as suitable, and often preferable, for the application of remedial appliances. This essay has been written with no purpose to inaugurate or prop up any new or favorite theory on the subject. The testimony it furnishes may therefore be received with the greater confidence. It sustains the results of recent research into the *modus agendi* of remedial agents applied to the mucous surface of the stomach, by evidence and which may therefore be regarded as competent, and certainly impartial.

Besides the work from which it is taken is voluminous; and has not been translated I believe into any language; and hence is accessible to but a minority of professional readers. It is therefore, thought valuable, to give it to the public in a more popular

form. The essay is translated from the "*Le Dictionaire dés Sciences Medicales*"—edited by an association of physicians and surgeons of Paris, in France; and extends to sixty large volumes, with a supplement of nine or twelve volumes published after the completion of the first alphabetical series.

We shall give therefore, the essay entire, from the original; and which is as follows.

Under the word "clystere" the author says, "The human body presents to the practitioner several surfaces to which he may apply his remedial agents; but, these surfaces do not all offer the same interest; the cavity of the large intestines is without contradiction, one of the most useful of these surfaces for this object.

Now the words "clystere," I wash; "enema," to throw in, to inject; "Lavement," from "lavare," to wash, to bathe, are generic terms, which are employed to designate all medicaments which are intended to be introduced into the large intestines, whatever may be their composition or virtue. It is a species of surname which has been given to all pharmaceutical agents, which have this destination and which pre-determines nothing in respect to their chemical composition, nor to the character of their remedial properties.

We consider it to be our duty to engage ourselves more in extenso, than has heretofore been the custom, in the examination of this mode of medicating the living system. We shall in succession, engage ourselves with the examination of the agents which are called glysters, of the part of the body to which they are applied, of the organic effects which they excite in the living economy, and of their therapeutical employment.

Of the pharmaceutical forms, which glysters may assume, and of their administration.—For the purpose of administering any medicament per anum, it is usually brought into a liquid form or state; but the vehicle which is used is variable, it is either inactive or inert, as simple water, or, it may possess in itself powerful medical activity, such as wine, alcohol, diluted spirits, beer, &c., &c. It is very evident that in the composition of a glyster we should always keep in view the medical activity of the solvent

employed; but it is still more important to consider well the influence of this solvent upon the chemical nature of the medicament which we form—an aqueous solvent dissolves best mucilage, in extract &c.—alcohol, more perfectly takes up resinous principles, volatile oils, &c.

We have spoken (in this dictionary) "on our general principles of pharmacology," of the inconveniences which are presented by a classification of pharmaceutic agents, based upon the destination given to them by the practitioner; we have shown that the same medicament might be introduced into the large intestines, applied to the eyes, to the back part of the mouth, to a painful membrane, &c., and that according to this system by turns, the same medicament is rendered a lavement, a collyrium a gargle, a fomentation, without undergoing any alteration in their physical qualities or medicinal power.

It is a series of names which have been accumulated upon the same agent which may be either a decoction, a medicated wine, a mineral water, &c. Thus Glysters ought to be in works on pharmacy, referred to different titles; at one time they are infusions or decoctions, then they are mixtures of divers medicaments, liquids holding in solution electuaries, extracts, powders, &c. These latter glysters have some analogy with the magistral prescriptions called potions, as has been remarked by Carbonell. (Pharmaceutical element.)

The liquid form which injections take is very favorable to the development of their active power. In effect, it allows these agents to be placed, at the instant even of their employment, in the immediate contact with the entire surface of the large intestines.

Glysters are usually given tepid, sometimes however they are ordered cold; but then the practitioner aims to derive advantage from their first impression upon the intestinal surface, and gives less regard to the chemical nature of the glyster, than to its temperature; often in such cases he employs simple water.

In the administration of medicated glysters, regard should also be given to their volume; those which are too large are retained with difficulty, because they painfully distend the bowels and

produce contractions, which oblige them to be thrown off. A smaller portion remains quietly a longer time upon the mucous membrane which receives it; and the medicinal principles which the glyster contains are permitted to exercise all their activity upon the parts of their application and even to penetrate into the living system.

In affections where the intestines are in a state of irritation, or attacked by phlegmasia, the weight of the ingredients which compose a glyster, should be calculated. Practitioners should then give to the medicinal material only four or five ounces of vehicle —a glyster made too heavy would occasion painful and hurtful dragging of the bowels.

We ought also to remember that it is necessary in all cases to give a simple, before giving a medicinal glyster. We empty by this means the large intestines, and we prepare their interior for the exercise of the active properties of the medicament.

Finally, the patient who receives a glyster ought to be placed in a horizontal position, and resting upon the right side, so that the medicinal liquid may the more easily be introduced into all the extent of the large intestines.

Of the part of the body upon which glysters act.—It is important carefully to examine the organic surface upon which glysters exercise their active power. This surface comprehends the interior of the rectum, of the colon, and of the cæcum, and extends from the anus to the ilio-cæcal valve. We should remember that their lining parts are very dilatable, that the mucous membrane which lines them within forms a large number of folds, and that this surface in a word, possesses a very considerable extent. The large intestines fulfill very important functions in the animal economy; some physiologists consider them as a centre where the intestinal digestion is perfected. Their internal surfaces receive many nerves and bloodvessels; it enjoys a very lively sensibility; it is the seat of a secretion and exhalation; it has also numerous absorbent vessels. For we know that in pathological cases where deglutition was impossible we have been capable of supporting the sick by aliments given by injection.

Such is the anatomical and physiological condition of the part

upon which glysters act. We easily perceive what facility they there find for the exercise of their medicinal power. Not only their immediate impression upon a surface whose vital properties are so largely developed may cause remarkable organic changes, but moreover the absorbent suckers which are there distributed abundantly will pump up the active particles of injections and cause them to penetrate into the circulatory mass—from this process arises a second cause of effects more important perhaps than their first.

Let us not however forget that when we compare the large intestines with the stomach, and when we endeavor to determine the which of these two parts merit preference for the application of medicinal agents, the first loses much of its value. We do not find in the large intestines that exquisite sensibility—that so active power of absorption—those sympathetic connections, with the principal viscera which make the stomach and the small intestines a place unique and incomparable for the medication of the living body.

As the vitality of the large intestines is less developed than that of the stomach, we ought always to put into injections larger doses of medicinal substances than that which is indicated for medicines which are to be taken by the mouth. If we wish to obtain an effect equally strong from these two methods of medication, it is necessary to administer by the anus a double, and often triple the weight of the same ingredient. Finally, there are some very energetic agents which we do not dare to administer by the stomach for fear that they might wound this viscus whilst they may be employed without danger or difficulty by injection.

Of the Effects which Glysters produce on the living body.—There is one result which we obtain in general with every species of injection, that is, the evacuation of the fœcal matters contained in the large intestines. But it is necessary to separate this effect from those which appertain to the exercise of any medicinal property. It is easy to conceive that a liquid, whatever it may be, injected into the cavity of these organs would produce the expulsion of their contents; this liquid is a stranger to them,

but there exists between it and the intestinal surface a defect of relationship or habitude which wounds the organic sensibility and excites the contractile action of the large intestines. Simple water suffices to obtain this result; and it is ordinarily this liquid which is employed when we only wish to empty the lower portion of the alimentary canal; but then no medicament is used. It is the action of these glysters alone which are devoid of active powers, which we are permitted to liken to that of baths as some authors have done. A pharmaceutical injection charged with medicinal substances produce an *ulterior* operation, upon which the physician should bestow great attention; the active particles which it contains produce on the animal economy a series of effects which ought to be studied with care, since it is from these primative or immediate effects that are derived the curative advantages which are obtained from the administration of medicated glysters.

These effects ought even to be distinguished into general and local; It is evident that a medicated injection in immediate contact with the mucous membrane of the large intestines will act in the first instance upon that part—that it will change the present order of its vital properties, and that it will there finally produce remarkable organic changes; but this agent will very soon propagate its power to a distance. The medicinal principles of which it is the depository thus penetrate into the mass of the blood, are carried into all the organs and exercise their power upon all the tissues; the changes which they excite in the arterial and capillary circulation, in the secretion and exhalations, in the cerebral faculties, in a word, in all the functions of life are of this the proof which the celebrated Hoffman has already enabled us to comprehend.

Thus it is easy by the means of medicated injections to produce in the living body very diversified organic changes, with these we can stimulate the organs, accelerate their movements, or strengthen their tissues, augment their strength, &c. Finally, according as the glyster which is employed contains tonic, or exciting materials, according as it contains a purgative or emolient virtue, &c., we give place to different effects, we excite medication of a special character which it is essential to recognize.

We affirm that in treatises of medical practice the employment of injections are advised often in a manner far too vague. Physicians do not sufficiently consider them as various and powerful agents—with which we are capable of combating many morbific conditions and filling a number of indications. Let us endeavor to show that medicated injections are important aids which therapeutics should never neglect. We shall permit ourselves to be guided in this effort by the nature of the organic effects which medicated glysters are competent to effect on the animal economy and we will make for them as many sections as there are in medicines different kinds of active property, as there are modes of medication. We will rapidly run over these.

Purgative Glysters.—These glysters are made with the leaves and husks of senna, rhubarb, jalap, colocynth, fresh root of bryony, tobacco &c., and with the sulphates of potash, soda, magnesia, &c.

Purgative glysters have a very energetic local action. Their sojourn in the large intestine produces a lively irritation upon the mucous membrane which lines their interior—their vital properties are developed, the blood flows with force in the net work of the capillary vessels which is there formed. This part becomes more swelled, warmer, more sensible; in a word their impression establishes upon the last portion of the intestinal canal a sort of sanguine congestion; a remarkable centre of vitality.

Moreover, the contractile action of the intestine is greatly excited; it becomes painful and gives rise to colics, and there occur dejections furnished both by matters contained in the small intestines which the shock impressed upon the alimentary canal, causes quickly to arrive in the rectum, and by the product of the secretion and exhalation of the mucous membrane of the large intestines themselves at that time singularly increased. There is felt a burning heat at the anus, if the irritating impression of the purgative injection is very great, as takes place, when we employ colocynth, tobacco, we observe even the matters passed by stool to become bloody.

We will not speak at present, of the general effects which are

produced by the glysters which now engage us. The changes which they may produce in the exercise of the circulation and the other functions are always fugacious; these latter products disappear in some measure before the importance of their local medication.

Purgative glysters are powerful aids in the practice of medicine. We are indebted to them every day for incontestable benefits.

In dyspnoeas which depend upon a spasmodic affection, in those oppressions which proceed from rheumatic affection; in many periodical cephalalgias, in gastrodynia, in the colics which Barthez calls nervous, and in a multitude of other cases which it would be difficult to indicate with precision, we obtain great success from the employment of these glysters. The fluctionary action which we then fix upon the inferior portion of the intestinal tube produces a powerful revulsion, and dissipates the diseases of which we have been speaking.

I have seen very recently an injection made with a scruple of colocynth cause to cease the accidents of a colic with vomiting which appeared to be ascribable to an anomolous contraction of the intestinal canal—to a disturbance of its peristaltic action.

How greatly are purgative injections favorable to women who cease to give suck and who wish to dry up the secretion of milk.

Accouchers make use of these purgative injections when there exists inertia of the matrix to rouse up its vitality, to re-establish its contractions. We employ the most energetic purgatives by injection in the treatment of apoplexy, paralysis, dropsy, colic of painters, &c. We say in conclusion, that these injections would be hurtful, if there should exist an intestinal irritation; that administered improperly, they might even cause to arise an inflammation of the lower belly.

Emetic Glysters.—Those who take by injection substances endowed with an emetic property often experience emesis. Avicenna has already made this observation. Notwithstanding, it is not common to introduce medicine by the anus with which we design to produce vomiting. The effects of emetic injections have

the greatest analogy with those which purgative injections produce, and it is to fulfill the same indications that we make use of the one and the other in practice.

Tonic Glysters.—These glysters are prepared with vegetable substances which abound in bitter principle, in extractive, in tannin, in gallic acid, gentian root, elecampane, peruvian bark, and in that of willow, of the oak, the twigs and leaves of small centaury, menianthes germanica, of fumiltory, of red roses, the fruits of sumac and of hops, bark of pomegranate, the nutgall, alum, &c., are used in the composition of tonic injections.

These glysters produce upon the large intestines a profound and desirable impression; the tonic, the extractive and the other active principles which they contain determines a febricula contraction in the tissues which constitute their lining parts; and increase their tone and vigor. This tonic action propagates itself to the whole alimentary canal. The digestive system appears to be strengthened. Moreover, the molecules of the different medicinal principles contained in these glysters insinuate themselves into the circulatory current, distribute themselves to every part and each organic apparatus appears to participate in this augmentation of tonicity; *roborantes clysteres virtute sed non modo intestinis, sed et aliis partibus atoniä laborantibus dicata sunt.*—(*Hoffman.*)

We administer tonic injections with success in dysenteries of a chronic character, in diarrhœs which are kept up by debility, by relaxation of the mucous intestinal membrane. They are also useful in passive uterine drains, in incontinence of urine, in long standing blennorrhagias, &c. The action of these medicinal agents upon the large intestines transmits itself to the parts in their neighborhood, excites a tonic constriction in these tissues, and reestablishes their lost energies. It is because of the active principles of the injections which occupy us are absorbed by the lymphatic vessels and carried into the mass of the blood, it is because they extend their medicinal influence to the whole system that we have often seen quinine administered by injection to prove itself a powerful febrifuge and curing rebellious intermittent fevers. Prosper Alpinus made use of this method of treat-

ment with success on himself in a quartan fever. Messrs. Comporetter, Baumes and Alibert recommend injections of quinine also in paroxysmal fevers which have a malignant character.

Exciting Glysters.—Motherwort, wormwood, roman chamomile, hoarhound, sage, rosemary, balm, the root of wild valerian, anise-seed, fennel-seed, coriander, angelico, bayberries, &c., turpentine assafoetida, &c., are the medicinal materials which serve in the composition of these glysters. As the active power of these vegetable substances appertain to acrid principles, aromatic and volatile, we should take care not to let them evaporate. These injections are therefore prepared by infusion and not by boiling. We make use of the yolks of egg to dilute resins and gum resins.

These injections exercise a sufficiently strong influence upon the animal system, the active principles which they contain in great quantity act in the first place, upon the intestinal surface and develop the vital properties of the digestive apparatus; but very soon they penetrate into the sanguine mass and become, if I dare so to speak, as so many spurs which stimulate all the living tissues, and augment the movements of all the organs. Their employment renders the circulation more active and the secretions and exhalations more abundant, &c., &c.

These immediate effects sufficiently recommend these medicinal glysters to the attention of practitioners. They are efficacious helps which may render important services in the practice of medicine and deserve without doubt more and frequent employment.

The stimulant action which these injections communicate to all the animal system is a warrant that it will be beneficial to employ them in adynamic fevers.

Injections endowed with excitant power are recommended by Hoffman in chronic affections attended with general weakness, paleness of the skin, flaccidity of the flesh, languor of vital action, in scurvy, and in cellular infiltrations, &c. The impression which these agents make upon the organs sufficiently explain their utility. The stimulant virtue which they put in action tends to re-establish order in each of the functions of assimulative life and to correct by consequence the state of deterioration which exists in the fluids and solids of the body.

But there are cases where their local action, especially render them useful—that is to say, in colics occasioned by flatuosities which atony of the digestive system permits to form and remain in a portion of the alimentary canal. In these cases injections endowed with excitant properties procure signal benefits—their carminitive virtues have been celebrated by all the authors of the materia medica.

We advise also glysters with turpentine in ancient dysenteries and diarrhœas after the period of irritation has a long time passed off, and when it is necessary to wake up the vitality of the intestines.

We should remember that the injections of this section ought to be prescribed in all cases where we observe heat, pain, an excess of organic vigor, or too much vital activity.

Diffusable Glysters.—All injections have wine for a vehicle, all those to which we add a strong dose two to four ounces for example, of an alcoholic tincture, distilled alcohol, of volatile oil of citron, of anaise, of turpentine, &c., belong to this section. Fuller gives a soothing anodyne which he composes with eight ounces of canary wine, half ounce of dioscordium and two yolks of eggs.

Diffusable injections have a more quick but less durable effect than excitant injections. They are distinguished especially from these latter by their influence upon the encephalon.

Glysters which contain wine, alcohol, &c., produce in the first instance a strong excitement of the intestinal canal; but other phenomena very soon arrest the attention of the observer—the active principles which they contain, appear to spread themselves with extreme rapidity with all the living system and stimulate all the organs. The course of the blood is hurried, respiration is more active, animal heat increased, the cutaneous transpiration is more abundant, &c., the blood is carried with force toward the head, the cerebral faculties are at first excited and augmented; but very soon when the diffusable injection is sufficiently charged with alcoholic principles there takes place in the brain a sort of sanguine congestion which changes the functions of this organ and produces all the symptoms of intoxication.

It has been even observed that drunkeness follows more quickly when we administer alcohol by injection than when we take it by the mouth. We find in the philosophical transactions an injection composed of Spanish wine, of pepper, and the yellow of eggs which excites all the abdominal system, causes internally a feeling of heat sufficiently lasting and produces even sweat for some hours after it has been taken.

Glysters endowed with an activity so energetic and extensive announce themselves as powerful aids, from which therapeutics may draw largely, in diseases where there is general weakness to combat or a profound torpor to dissipate.

Diffusable glysters are indicated in adynamic fevers. Fuller says that the stimulating glysters of which we have given the composition is for the intestines that which cordials are for the stomach. He regards it as a useful remedy in malignant fevers. Fuller has known a practitioner who administered this injection in small pox to aid the eruptions, without doubt, when a state of debility prevented it.

In wind colics a diffusable injection solaces the patient in a sudden manner by impressing upon the digestive canal an impulse which re-establishes its peristaltic action.

These injections are very recommendable means with which to combat the various accidents with which chronic affections give rise. We do not undertake in this place to indicate the occasions where we should have recourse to them; but there is presented in their treatment a multitude of indications for the which we might employ them with success.

It will be superfluous to enumerate the cases where these injections are prescribed; the character of their active force sufficiently announce them.

Narcotic Glysters.—The capsules of the poppy, opium and its diverse preparations, are the ingredients which serve for the composition of these powerful agents of practical medicine. These injections possess a very remarkable activity; they make an impression upon the large intestines which throws the alimentary canal into a profound torpor, they deprive it of its vital properties and suspend its organic movements. The stomach itself

ceases then to fulfill its important function. Dr. Alibert reports (*Elem. de Therap.*, tom. i. p. 519,) that a man having determined to dine a half hour after having taken a narcotic glyster could not digest his food. He was obliged to throw up, by vomiting every thing which he had swallowed. But the influence of narcotic injections is not confined to the digestive system; it propagates itself to the entire economy. These medicinal agents rob all the organic systems of a part of their sensibility and their contractility, they relax all the vital actions and cause a general torpor.

An active property so powerful, assigns to these injections a distinguished rank among the resources of therapeutics.

There is found sometimes an occasion of putting these injections in use in ataxic fevers, for the purpose of dissipating a viscious concentration of vitality, fixed upon a viscus; but then employment requires great precaution.

In the course of some phlegmasias, in diarrheæs caused by irritation, in dysenteries, &c. Narcotics put in small doses in mucilaginous injections are very useful. Sydenham employed with great success toward the end of these diseases, an injection or glyster made of one half a pound of cows milk and an ounce and a half of treacle. Narcotic glysters are also recommended for calming nephritic pains. We should take notice that in affections of long duration where we are obliged to employ opium as an anodyne and to recur to it often it is very advantageous to cause it to be taken by injection so as not to disturb the functions of the stomach.

These samemeans daily signalize their curative faculty in colics which are ascribable to anomalous contraction of the intestines.

These injections are not less efficacious in convulsive affections, in a great number of neuralgias, cramps of the stomach, dyspneas, in tetanus, &c. Cullen praises them very much for arresting spasmodic vomiting, (*Mat. Med.*) But these divers curative results proceed always from the primative action which narcotic injections exercise upon the animal system from their influence dnon the vital properties of organs, from the relaxation which they produce in the living tissues and from the stupor which they occasion.

Laxative Glysters.—Glysters which are composed of laxative substances, as of manna, senna, sweet oil, &c., have a great analogy with those which belong to the following section—they produce nearly the same effects; and are applicable in the same circumstances. We refer therefore to emollient glysters, for what we have to say of laxative glysters.

Emollieut Glysters.—These glysters are composed from mucillaginous, farinaceus, oily, and gelatinous substances of the materia medica. The roots and leaves of the marsh mallow, of common mallow; the leaves of white mullien, of violets; the grains of flax, and barley, starch, milk, veal soup and decoctions of scraped buckshorn, are the ordinary ingredients of emollient glysters. We give also by injection the common emulsion. We also often add to glysters of this section, the oil of sweet almonds, and of olives.

Glysters made from emollient substances also often serve as a vehicle for other medicinal substances. Thus, it is that in a decoction of mallows or of mercuriale, &c., is very frequently administered opiate preparations, alcoholic tinctures, purgatives, &c. But it is proper to remark, that the feeble activity of the emollient materials which exist in these glysters, is lost or not perceived before the great power of the agents which are added to them—the mucillaginous or oily substances, &c., only serve to moderate the first impression of the other ingredients, and to defend the intestinal surface from too great irritation.

Glysters composed of mucillaginous, farinacious, gelatinous, &c., substances possess nevertheless, a property peculiar and appropriate to themselves. Their contact with a living part reduces its tonic force, and weakens its activity. This effect is remarkable upon the intestines. The habitual use of emollient glysters, deprives the digestive system of its accustomed energy and produces a kind of atony of these viscera.

But these local effects, are not the only ones, which are produced by emollient glysters—their influence though feeble is extended notwithstanding to all the organic systems. These glysters do not excite in the functions of life, sudden changes, which are prominent; but they produce in all the organs a real relaxation,

which tends to slacken their activity, and which in diseases with excess of vital force, or with too great agitation of the blood, produces a calm sufficiently remarkable. It is these general effects which Sydenham would designate when he says, "that an emollient glyster refreshes the blood, and moderates the effervescence." There can be no doubt but that the mucilaginous oily, &c., substances contained in these glysters, penetrate the sanguinary mass and thus spread themselves to every part of the body; and that it is their immediate action upon all the living tissues, which gives rise to the phenomena of which we are now speaking.

The practice of medicine affords daily cases of disease, where emollient glysters demonstrate their beneficial aid. In inflammatory and billious fevers, in phlegmasia of the serous membranes, in those of the tissue of the different viscera, in acute rheumatism, &c., emollient glysters are among the means of general treatment, and are placed among the most efficient aids. Their relaxing power moderates the intensity of morbid accidents, and efficiently co-operates in effecting a fortunate termination. Sydenham and all practitioners place a high value upon these glysters, in the diseases just mentioned. Sydenham also administered glysters made of chicken-water in cholera morbus.

The glysters which belong to this section, are administered also with success in the first period of phlegmasia of the mucous membranes, in dysentery, in diarrhœa from irritation, in pulmonary catarrh, in chorea, &c. Sydenham gives much praise to glysters of whey in dysentery.

What means can be more efficacious than emollient injections in the inflammatory diseases of the urinary passages? Their direct or immediate action, does it not tend to produce a salutary relaxation in the diseased organs to assuage pains, &c.?

These glysters are not less recommendable in active hemorrhages, hemoptysis, &c. Their influence upon the circulatory system sufficiently explains the cause of their utility.

These same glysters will be also useful aids in all chronic diseases, which are associated with a dry and irritable constitution. They are beneficial to individuals who are subject to spasmodic

affections, who have, as we say, a too dry and tense fibre. Experience teaches every day that we must not neglect them in nervous affections. It is to emollient glysters that we should recur, to combat active constipation, that is to say, that which is referable to a state of tension—to an excess of heat in the large intestines. Notwithstanding, however useful emollient glysters in this case show themselves there are many cases, where they should be generally proscribed. In adynamic diseases, in chronic affections with relaxation, weakness and cachexy, they are oppugnant by their action to the therapeutic views of the physicians.

Acidulated Glysters.—The glysters which we have here in view, are those rendered acid with the juice of lemon, of sorrel, with vinegar, &c. We should be careful not to use but a small quantity of acid, so as not to wound the interior of the intestines by a too strong impression. Goubius has given this advice, at the same time expressing his astonishment, that acidulated glysters are not more frequently used.

These glysters have a sufficiently remarkable property. When there exist an exaltation of the vital forces, that the course of the blood is accelerated, that the animal heat is much developed, &c., these medicinal means exercise a well-marked calming influence—their action extends itself to the whole animal system—they moderate the organic movements, and diminish the activity of the capillary vessels, &c., &c. We will treat of the property of acidulated medicaments at the article "*Temperance*," more in detail. Acidulated glysters will always be useful agents in all acute diseases, when we aim to moderate the agitation of the blood and of the organs, to reduce general heat, and to produce a sort of calm in the diseased economy.

In the course of inflammatory and bilious fevers in the beginning of adynamic fevers, &c., their employment will often procure very marked advantages. We might also find in them efficacious aids in the treatment of Hemorrhagies.

Vermifuge Glysters.—Vermifuges are medicinal substances possessing the power of killing intestinal worms. These substances produce this effect by an influence which is often independent of the exercise of their active force, for there are vermi-

fuges which possess a tonic virtue, others a laxative virtue, &c.; but all of them contain the principles proper to destroy worms.

In verminose affections we derive often great benefit by giving injections of tansy, absynth, sementine, the root of male fern, the Corsican coral, fine oil, &c. We shall study at the article "Vermifuge" the chemical nature and immediate action of the substances, which possess this property.

Let us not forget in this place that it is well known that the best method of attacking the ascarides, worms which are destined to live in the large intestines, is to give vermifuges by injection.

This essay was written by "*M. Fabier*" whose signature it bears, being one of the associated physicians and surgeons, by whom was edited and written, the work from which it is drawn.

He has appended to the article, a list of twenty-six different authors, who have written especially, at different times, and in distant countries, upon the subject; most of whom are justly celebrated in the annals of medicine as a professional science. "Vide Le Dictionaire des Sciences Medicales," vol. v. article "*Clystere.*"

We shall refrain from saying any thing in reference to the other two surfaces, mentioned heretofore, as the skin, and the interior surface of the lungs, as suitable for the application of remedial agents, other than to repeat our opinion, given in the beginning of this communication, of their necessarily high and greatly neglected importance in this relation; and to express a hope, that they will, at an early time, receive the minute and careful examination from the profession, to which I esteem them so justly entitled. Among the results of such an investigation, conducted with requisite diligence and scientific precision, we may reasonably expect some valuable additions to our present knowledge, of the nature and modus agendi of the causes and cure, or prevention of malarious, or atmospheric diseases—diseases which are often Epidemic; and have been, and still are, the most destructive scourges of our race.

ART. VII.—*Nitric Acid in the Treatment of Intermittents.* By DR. J. E. THOMPSON, Roseville, Ark.

It will be readily admitted by every practical physician, that selections of important cases, concisely and judiciously narrated, have thrown more light on the treatment of disease than all the combined labors of the chemist and microscopist. It would be folly to deny the great advantages which medicine has derived from the cultivation of the collateral sciences; nevertheless, there is at the present period a great tendency, on the part of many junior practitioners, to mistake the means for the end, and to devote too large a share of their attention to the study of *sciences* which are merely handmaids to the *philosophy* of medicine.

To such as these, the words of Pope convey a wholesome lesson:

"More good will accrue to mankind by attending to the large, open, and perceptible parts, than by studying too much such fine nerves and vessels, the conformation and uses of which will forever escape our observation."

As the appearance of one or two swallows does not prove that summer is nigh; so two or three cases however concisely and judiciously they may be narrated does not prove any particular theory in medicine, however well they may be founded on true pathological principles. But a multitude of cases founded on experience and physiological observation, with certain pathological phenomena, demonstrates certain facts which amount to absolute theories. Thus, in narrating these few cases, I do not expect to establish any new theory either in a therapeutical or pathological relation, but only to give them as the result of experience and observation; hence, only receive them for what they are worth.

Case 1.—John C. Brochman, æt 23, of lymphatic temperament, contracted intermittent fever in Sep. 1855, of the tertian type. He was treated with the ordinary antiperiodic remedies together with a host of patent nostrums, all however to no cura-

tive effect. His skin was of a yellowish tint; bowels constipated; spleen enlarged, with general debility. In March, 1856, I began treating him with nitric acid in the following form:

℞. Nitric acid . . . . . fʒi.
Aqua . . . . . ʒvi.

Mix. One drachm to be taken every two hours in an ounce of water during the intermission, with four of the following pills every fourth day until the bowels became regular:

℞. Sulph. ferri . . . . . ʒi.
Pulv. rhei . . . . . ʒi.
" aloes . . . . . ʒss. M. To

be divided into 40 pills. In six days the chill and fever ceased; the bowels became regular, and the skin assumed a more natural color. I then ordered one drachm of the acid mixture to be taken in an ounce of water three times per diem for two weeks with a dose of pil. sulph. ferri pro renata. He rapidly recovered, and remained in uninterrupted health till March 1857, when he was attacked with typhoid pneumonia and died.

Case 2.—Miss Sarah Brochman, sister of case 1, æt 20, of delicate habits and constitution, contracted fever and ague of the quartian type in August, 1855. It resisted the ordinary treatment with impunity. In April, '56, I found her very feeble; pulse accelerated; skin yellowish; bowels constipated; suppressed menstration; enlarged spleen with dull pain in the lumbar region. Ordered the diluted nitric acid ʒi in an ounce of water every two hours, till the chill was broken up, with pil. sulph. ferri No. 2 once a day at bed time in connection with a tepid hip-bath. In eight days the chills ceased, and at her regular period her menses returned. She rapidly recovered, and up to March 1857, has had no return of the disease.

Case 3.—Miss B. sister of case 2, æt 16, delicate constitution, was attacked with intermittent fever in October, 1855, of the tertian type. It continued in spite of treatment with an occasional intermision of ten or fifteen days till April, 10th, '56, when I found her much debilitated; pulse accelerated; skin yellowish; bowels constipated and vice versa, with profuse menstruation. Gave the diluted nitric acid in drachm doses every two

hours during the intermission, and after a dose of blue mass the following powder:

℞. Pulv. opii . . . . grs. 10.
" plumb acetas . . . grs. 20,

Mix, and divide into ten powders, and one taken every two hours till the menorrhagia subsided.

April 15th. Has had but one chill; menorrhagia better; bowels regular; acid continued for five days, then to be taken three times a day for two weeks; powders to be given four times a day till the menstrual discharge ceased. Patient gradually recovered. About three months afterward this patient had another attack of intermittent fever; but recourse to the diluted nitric acid soon subsided it. It has not recurred again to my knowledge.

Case 4.—Oliver B. brother of case 3, æt 18, of good constitution, was attacked with intermittent fever of the double tertian type in June, 1856. It presented the usual phenomena of the double tertian type. Saw him first on the 10th of June. Gave diluted nit. acid, the usual dose every two hours during the intermission, with a dose of blue pills at bed time. He recovered rapidly.

Case 5.—Mrs. B. mother of the above cases, æt 39, of lymphatic temperament and delicate constitution, contracted fever and ague of the tertian type about the first of July, '56. Mrs. B. let the disease continue uninterrupted by treatment for some two weeks, when she became somewhat concerned about the ague as she supposed she was at the "turn of life" and came to me for treatment. I put her upon the acid treatment in connection with pil. sulph. ferri pro re nata. She soon recovered.

Remarks.—This family moved from Kentucky to Bates co., Mo., (at which place I was then practising,) in the fall of 1854, and settled near a large swampy bottom, and opened a new prairie farm. Necessity compelling them to live in an open house and to drink *branch* water, might have (and no doubt did) cause the disease to become so unmanageable.

Case 6.—Mr. Pollard, æt 36, of delicate habits, contracted intermittent fever in May, 1855, of the tertian character. It

presented nothing unusual from the disease in that vicinity in general except an unaccountable resistance to the action of sulph. quinia; with which I treated him for six months with no effect. Having moved to Kansas Territory in November of the same year, I did not see him again till the following September, when the Kansas war scared him to Missouri for protection. No mitigation had taken place in the disease, but was as active as when I saw him last. I prescribed diluted nitric acid with an occasional dose of blue mass; in two weeks no vestige of the disease remained. March '57, has not had a recurrence of the disease.

Remarks.—In recent attacks of intermittent fever the sulphate of quinine acts with more promptness in breaking up the paroxysms; but a recurrence is more liable.

To combine the remedies, as I am sometimes in the habit of doing in the following proportions, acts finely:

℞.	Nitric acid	f℥i.
	Aqua	f℥vi.
	Sulph quinine	grs. 28.

Mix. This mixture combines the virtues of the acid and quinine and is both a prompt and permanent antiperiodic. In intermittents of long standing where there is considerable hepatic derangement, no remedy has proven as effectual in my hands as nitric acid. I regard it as *decidedly promoting the hepatic secretions*, as well as being a *permanent antiperiodic.* I have also used it with considerable advantage in bilious, pernicious and in the lower stage of typhoid fevers. If persisted in too long, its exhibition may prove injurious to the teeth by destroying the enamel.

ART. VIII.—*The Epidemic Winter Fever which prevailed in Jackson county, Indiana, in* 1856-'57. By SAMUEL WORT, M.D., of Indiana.

Having been appointed by the Indiana State Medical Society one of a committee to report on the use of Mercury in the treatment of fever, I had prepared a report on an epidemic winter fever which has prevailed in my locality (Jackson county, Ia.,)

the past winter and spring, differing materially from our winter and spring fevers, which have been common in the low alluvial locations in the Mississippi valley ever since I have been acquainted with it, which has been 37 years. It has been variously denominated, cold plague, typhoid pneumonia, winter fever, lung fever, &c., and indeed from the multiplicity of forms under which it makes its appearance, it probably deserves those various appellations. But being satisfied, as I am with 35 years observation, that it is only a sequel of the malarial fevers of the preceeding summer. The effects of inhaling an atmosphere more or less impregnated with the poisonous exhalations from decomposing vegetable matter, and the recent exposure of a rich alluvial soil to heat and moisture, and not only the varied constituents, but also the intensity of such noxious exhalations, must of necessity influence the type, or form not only of the winter epidemic, but also of the preceeding summer and fall diseases. When the preceeding summer has been wet and hot, especially when there have been frequent showers unaccompanied by thunder, and the light carburetted hydrogen (which we conceive to be the true malaria) is deflagrated by electricity during the night, constituting the aurora borealis sometimes shooting up to the zenith, but in its most intense form, only appearing in luminous arches in various directions, having the appearance of some large fire in that direction. At this time we observe fogs settling early in the evening in low horizontal strata, in low meadows, and cold wet situations. The diseases are violent and the accession sudden, ushered in by chills, and presenting such symptoms as would be produced by inhaling light carburetted hydrogen. Frequently without well directed exertions, re-action will not take place, and the patient dies in the apyrexial stage. The winter fevers succeeding this condition which I have denominated "hepatic bronchitis," have been the most sudden and fatal, as the effect of inhaling the malarious atmosphere, has not only been to impregnate the blood with the poison and leave all the secretions in a vitiated condition, but its effects on the bronchial membrane have been to thicken it (as autopsies have demonstrated) and thereby check or retard the ingress of oxygen to the blood and the

egress of the oxide of carbon from it, consequently the winter fevers are sudden, cold skin; livid purple skin; quick weak pulse, unattended by pain or expectoration; tongue moist, but loaded; all the secretions diminished, and morbid fatuity, ask how they feel, they answer very well, and continue to repeat this to you, till you stop them, tell them to put out their tongue, they will keep it out till you tell them to take it in; expectoration and pain are favorable prognoses. This form frequently goes through whole families, either simultaneously or successively, and frequently through whole neighborhoods, and I have also known it to spread as though it were highly contagious, attacking the friends and nurses successively, as they had been exposed to the contagion; but I have accounted for this to my satisfaction on the principle that a family and neighborhood were generally equally predisposed, and being confined in the room with the sick who emit an intolerably offensive exhalation from their bodies, which acting as an exciting cause on a predisposed system readily produces the same form of disease.

With this disease the only chance for recovery is by very early, prompt, and energetic treatment, the object is to stimulate freely, to give energy to the circulation, then bleed freely to relieve the congestion and withdraw the portion of the super-accumulated mass of contaminated blood, give diluents to replenish, and excite the secretions by a full dose of calomel, &c.

But I designed especially in this paper to give the result of my experience and reflections of the epidemic which has prevailed in this vicinity the past winter and spring, and the result of a treatment which I have adopted with singular success, and which as far as I know is entirely novel. Since the winter of '47 and '48, which were very wet, with almost constant strong south winds, our country has been comparatively healthy, and the seasons comparatively dry, the fevers have been few but unusually severe, their accessions more than usually insidious, and generally inflammatory. Dysentery, and all those inflammatory diseases peculiar to higher altitudes have been more prevalent in low alluvial situations. But during the past winter and spring the form of disease has been typhoid, if I use the terms to any

disease, but I have my prejudices against the term altogether, probably because many physicians apply the term to all fevers that run on till the patient is reduced very much, and from the fact that in nearly all fevers the intestines are loaded with morbid and acrid secretions that are poured out into the bowels and are suffered to remain in contact with the peyerian gland, and when the disease has terminated fatal they are found to be ulcerated. Hence that has been considered as diagnostic of typhoid fever, and therefore form my mode of treating fevers. I have seldom met with that form of disease, only where I have been called as counsel.

From my experience, observation and reflection, (which has been quite extensive in a practice of nearly 45 years, and in nearly every latitude and altitude,) I am satisfied that every variety of fever consists in a morbid condition of the capillary circulation, and consequently a corresponding morbid condition of the secretions, either general or special, and the functions and true physiology of the secreting system which is dependent entirely on the nervous influence, is decidedly the most occult branch of our science.

The best conclusion I can come to concerning the nervous system and the function of secretion, is that as the optic, or olfactory nerve if furnished to the auditory organ, notwithstanding the peculiar physical structure of the organ, would be altogether incapable of distinguishing the fine vibrations of the atmosphere, and so of all the other organs, both of the senses and of the secreting organs, the nerves supplying the stomach and excited by the elements of the gastric fluid. The kidneys being excitory their functions are more varied; hence they are susceptible to the stimulus of more varied principles, and so it is with multiplicity of substance and tissues secreted from the blood, the nerves supplying the secreting glands of every organ, are only susceptible to the stimulus, of the peculiar substance, fluid, or principle it secretes in a normal condition, but all may be in some diseased or abnormal condition which will render their secretions vitiated. The peculiarity of the hepatic secretion, a very important branch in the function of digestion, is that cer-

tain elements are separated from the blood and passes through the other digestive organs before it enters the portal circulation, which is necessary to evolve the elements of bile, otherwise nature would not have furnished the liver with the hepatic artery and with arterial blood for the nourishment of the organs and this peculiar portal blood for the secretion of bile.

But now to the present epidemic, and my peculiar treatment. The summers of '55 and '56 were very warm and dry, with dry and extremely cold falls, winters and springs, with largely predominent north winds, no aurora borealis, thunder much below medium, health much above medium in the Mississippi valley, generally good in my vicinity, but what sickness was, came on more insidiously—its continuance more protracted, more inflammatory, dysentery more common, chronic diseases more frequent and obstinate, and during the winter and spring the diseases assumed what I shall denominate a typhoid fever. It most generally commenced insiduously, the patient complaining of prostration, some erratic pains, and general restlessness, with loss of appetite for a time before they are confined to bed, when confined they seldom complain of pain or nausea; pulse nearly natural, rather small and tense, tongue generally but little furred and moist; skin dry, of natural temperature; sense of cold or numbness in the extremities; entire loss of sleep; eyes closed and constant mattering; typhomania; picking at the bed clothes and other imaginary objects; but little thirst; sometimes frequent coughing but frequently destitute of cough or any symptoms of affection of the lungs; urine high colored, and depositing copious sediment, dejections fluid and dark; those predisposed to disease of the lungs have severe cough; those predisposed to diseased liver or digestive organs are troubled with emesis, and in a few cases phrenitis. The disease under the ordinary treatment has been very fatal, I have treated about thirty original cases, all of whom have recovered, and I have been in counsel in a number of cases, the most of whom have recovered. I lost one patient, who had purged himself severely with pills from an itinerant pill pedler, who insured a cure for a small sum. The following has been my course of treatment, attended with remarkable success,

and in many cases adopted as counsel, and as called on in the last stages of the disease to take charge of the case, after the usual treatment had been pursued for many days, or weeks, and life despaired of.

I have narcotized the system completely, frequently with sulph. morphine alone, which I give in a dose of from 2 to 4 grains, and some times have to repeat it in less portions at the expiration of an hour or two. Small doses of morphine acts as a stimulus, and aggravates the symptoms of typhomania; but it must be given to the full extent of narcotism, this requires judgment and attention, but I have tried the combination of narcotics, and I think I prefer it. If the bowels do not require restraining, I combine S. morphine and extr. hyosciamus, and sometimes cicuta, belladonna and stramonium in proportion to their respective doses, divided by the number of their ingredients. After the system is narcotized, or soon after I give the first narcotic dose, I bleed freely and this will raise the pulse and equalize the circulation, and increase the animal heat. I use no febrifuge but cold water externally, and internally, when the temperature is too high, I use cold water. If too cold use the warm bath. In an hour after the bleeding, I give a dose of calomel from 80 to 100 or in very bad cases with fluid dejections 150 grs. This will then thoroughly overcome the morbid condition of the secreting system which is the great desideratum.

The patient will now lie in a stupor and requires to be aroused frequently, and requires the attention of a skilful nurse, and that the condition of the patient and the effects of the medicine be well explained to the friends. While the first stage of excitement lasts the patient should be frequently aroused by sponging with cold water, but after from 2 to 4 hours, a copious sweat succeeds; the patient becomes tranquil; the pulse full and soft; the mind clear and placid when aroused, and generally from 15 to 24, sometimes 30 hours; the calomel will begin to operate with blackish grain thick mucilaginous dejections, it will operate slowly, and probably at the end of 15 or 20 hours it may be assisted by ol. ricini or some gentle purgative. After it has operated tolerably freely, give another dose of morphine in less portion,

with paregoric; after this, gentle cathartics to carry off the morbid accumulations in the bowels, with the use of sedatives as the case may require. I always at this stage prefer a compound of the sedatives above mentioned. The calomel given in this way, and in such doses, acts entirely on the secreting glands of the primæ viæ.

I have frequently known it to perform a cure at once, where every particle of it had passed off in the stools. I conceive the secreting system to be an entire system composed of the various branches, and that the digestive organs, or the stomach and bowels constitute the controlling branch, and the skin the second grade, and that all the other branches act in unison, or sympathy, or synchronously with them. Calomel given in this manner is not absorbed—does not salivate—does not sicken the stomach or produce any of those bad effects experienced from its use in small and repeated doses. One dose is nearly always sufficient, and after this course we have nothing more to do but to administer to other various symptoms that may occur. These will be various as the peculiarity of constitution or idiosyncrasy.

This mode of treatment is more or less applicable to all fevers, as I conceive them all to depend on either a general or special affection of the capillary circulation, and morbid secretions, but the variety of fever depends on the tissue, or branch of the secreting system that is specially affected, and in this case the special affection in the vital, or insensitive nerves, therefore it is unattended with pain, and an indescribable derangement of the intellectual faculties.

The first time I adopted the use of calomel in such doses was in Hispaniola in yellow fever, while surgeon in the Columbian army in 1816. I practiced it in Calcutta in 1817 in cholera—in Jefferson county, Ky., in 1821—I attended 1500 cases of malarial fever in three months under the same treatment, with unparalled success.

I practiced it in ophthalmic fevers in Mexico and in Indiana in all the fevers of the country, intermittent, inflammatory, and dysenteric fevers, and in all cases simply with a view to correct all morbid conditions of the secretions.

The usual mode of administering mercury in small or alterative doses, it can only act by being absorbed, and by its poisonous and stimulating effect increase the impetus of circulation, and thereby overcome the torpor or morbid condition of the secreting glands, and capillary circulation. I have frequently cured diseases that had resisted hundreds of small doses of calomel and frequent or repeated salivation, by one solitary dose of calomel, after preparing the system by quieting the nervous system by sedatives, which equalizes the circulation and removes all congestion, by venesection, and evacuating the bowels by some gentle evacuant.

After subduing the fever till perfect intermission takes place a few doses of quinine with paregoric may be given. One portion about two hours before the accession of fever, repeated before two or three paroxysms.

THE PHYSICIAN.

BY MRS. W. T. HELMS.

There are cities, crowded cities,
  Lonely as some mighty tomb—
Marts of Death! all fest'ring under
  Clouds of pestilential gloom—
Where the silent paving-stone
Echoes but some hollow moan,
And the muffled step and tone
  Of the last lone watcher there—
  Pale with grief and wan with care,
Mercy's mission to fulfill,
The physician lingers still!

Through the hovel, through the palace
  Breathing hope into despair,
Lulling pain, and cooling fever,
  Drinking poison from the air!—
Moving with a noiseless tread
'Mong the dying and the dead,
Waiting till the "silver thread"

Silent, softly parts in twain,
Or entwines with earth again,
Breathless, noting pulses thrill—
The physician lingers still!

There are little worlds of beauty—
"Fairy rings" of wealth and love,
When life speeds on wheels of pleasure
Like the flight of mated dove.
Ah, what sorrow strikes the heart!
Death hath many a shining dart
Hid beneath the leaves of art!
Hark! the wail of deep despair
Speaking desolation there!—
Baffled science standing by,
Keenly feels that piercing cry!

Keeping many a sleepless vigil,
Pouring many a healing draught,
Tilting with the King of Terror—
Parrying his untimely shaft!
Parent of *one fading treasure*,
Can'st thou find a thoughtful measure
For the sacred joy and pleasure
In thy *bosom's gem* restored?—
Fitting ransom can'st afford
The physician's pow'r to save
From a dreary prison-grave?

Drifting e'en 'mong isles of danger,
Life-boat by some sinking raft—
In the offing, Death unfurling—
Bearing downward his cold craft!
Oars of science, ha, he plies—
On their strength and skill relies,
And the barge of Death defies!
Ho! the victim, in his prime,
Hails once more the shore of Time!—
First fruits grateful, treasures mete
Brings to the physician's feet!

WASHINGTON, D. C., June, 1857.

ART. IX.—*Influenza.* By S. P. CRAWFORD, M.D., of Greenville, Tenn.

Mr. Editor :—A short sketch of the diseases in this locality may not be uninteresting to you or your readers. I do not write to enlighten or instruct or unravel the mysteries of our art, that others may improve by my observations and investigations. Such a position I do not aspire to, and if I were, it is untenable by one who is engaged solely in the practice of medicine, the druggery of the profession.

I write merely to record passing events. Facts, though they may be presented in an unlettered and uncouth manner, are the basis of all the great practical principles in medicine. When facts are brought together, general principles are deduced from them that serve to advance medical science. But the advancement and improvement of medical science farther than the noticing of events, I leave to other pens.

It is the business of the practitioner to notice facts, and those who have more leisure to classify, arrange and deduce general principles.

But enough. *De gustibus non disputandum.* But few diseases that come under the observation of the physician are more difficult at times to diagnose than influenza. Its *protean* character is likely to deceive the most accurate observers, for every epidemic falls upon the country like a new and unknown disease. It has fallen to my lot since my advent into the medical field, to have something to do with two visitations of this curious and interesting disease. Curious from its varied appearances, and interesting from the fact that it calls forth all the skill and acuteness of the practitioner to detect it in its retreat among what was at first view supposed to be other diseases.

The last epidemic of this character made its appearance in March, 1857, and continued through the months of April and May. In but few cases did it commence like ordinary coryza. To describe it correctly would require a description of each case separately, and I can give in this article but some of its characteristics.

All classes were obnoxious to it, yet it differed materially in children and adults. In children its onset was sudden and most usually in the form of otalgia in which the suffering was excruciating for a few hours and then passed off, leaving the patient tolerably free from suffering for a few hours or until the next day. The otalgic character of the disease was paroxysmal continuing with great severity until abscesses were formed and their contents discharged through the external ear. High fever; hot skin; cough and expectoration, with pain in the breast were either simultaneous with, or followed in a few hours the earache. These were the most usual symptoms in children. In some cases the disease commenced like an ordinary cold followed in a few days with all the other symptoms.

With adults the otalgia was not so marked, the complaint amounting to nothing more than deafness and roaring in the ear. In every case, with adults and children, there was more or less complaining of the ears. In adults the disease most usually assumed the form of pleuro-pneumonia.

In some cases both of children and adults, the disease located upon the bowels or stomach resembling gastritis or dysentery, with mucous bloody discharges accompanied with tormina and tenesmus.

The head in children and the lungs in adults were the most general points of attack. Cough and expectoration were the concomitants in all cases. The duration of the disease was about ten days, going off with copious exhausting perspiration which had to be arrested in many cases to prevent fatal exhaustion.

Something near one hundred cases came under my charge during the prevalence of the epidemic. The disease was confined to no locality, but was general in every direction of my practice, and through the country so far as I could learn. Cold or warm weather seemed to have nothing to do in advancing or retarding it; neither had the various grades of society any advantage over the other. It was emphatically a disease that was no respecter of person, locality, or climate.

Treatment.—From the sudden attack, severity of suffering,

with high fever, would naturally suggest to the mind of the practitioner active depletion; yet such measures when adopted I found not only to be erroneous but mischievous by the sudden and almost fatal prostration that would quickly follow such a a course. The disease was one tending to debility in which active depletory measures could not be adopted with safety.

The lancet I never used, nor did I see it used but in one case and that one proved fatal, the only fatal case that fell under my observation. The fatality was not the result of the bleeding in this case, but the want of timely aid.

Most of the authors that I have examined upon influenza recommend treating the disease not as one essentially different from others, but according to symptoms. This is correct if regard is always to be had to the nature and tendency of the epidemic. There is some prominent feature in every epidemic, no difference what part of the system may be assailed, which when discovered must determine the general plan of treatment. In the epidemic referred to; had I treated pleuro-pneumonia as an ordinary spasmodic case of that disease, the result would have been mischievous; or had I treated gastritis or dysentery occuring as they did in this epidemic, as ordinary cases of these diseases, the result would have been the same. Then the treatment according to symptoms as for other diseases is not the proper one to use in epidemics.

First ascertain the nature and tendency of an epidemic and then modify the treatment applied to all parts of the system accordingly. The tendency of this epidemic was to debility and hence the treatment was so modified. Calomel was given as a cathartic, and tartar emetic given in doses barely sufficient to produce slight nausea, with a large blister over the chest, constituted the treatment in pleuro-pneumonia for the first three or four days. When the symptoms commenced yielding the syrup of scilla was substituted for the tartar emetic having the advantage of being slightly stimulant as well as expectorant. When the fever commenced abating, quinine was used with a view to prevent exhausting perspiration or any tendency to prostration.

The treatment of all the variety of cases was modified to meet

the general tendency of the epidemic; and I had the satisfaction of seeing it succeed in every case.

But another epidemic may assume an inflammatory character and require a reversal of the mode of treatment. The great business of the physician through all his professional life is to ascertain the precise nature and *disposition* of the *enemy*—that once correctly determined, victory will perch upon his standard.

PROCEEDINGS OF MEDICAL SOCIETIES.

(From the Nashville Journal of Medicine and Surgery.)

ART. X.—*Resection, with the Disarticulation of one-half the Inferior Maxilla.* By B. W. AVENT, M.D., of Murfreesboro', Tenn. Read before the Tennessee Medical Society.

Jefferson, a negro man aged forty years, the property of Maj. John W. Childress, of Rutherford county, Tenn., has disease of the Inferior Maxillary bone. He gives the history of his case as follows: About six years ago he was stricken with a rock on the left jaw. Considerable swelling of the parts resulted, and for several weeks he was confined to his room, during which time he suffered great pain. Upon the subsidence of the immediate effects of the injury, a small hard tumor was discovered near the angle of the jaw, supposed to be an enlargement of the bone. Its growth was progressive, but experiencing neither pain or inconvenience from it, no means were employed for its relief for a period of three or four years. Finally, the deformity became quite apparent, which induced the calling in of medical aid. The case was placed in the hands of Dr. J. J. Abernathy, of Murfreesboro', for treatment, and sometime during the latter part of the year 1855, he performed an operation upon the most prominent part of the tumor, and with the saw and chisel removed a portion of bone as large as a hen's egg. The wound made in the operation healed without difficulty, and in a short time the patient was in the enjoyment of his usual health. The operation, however failed to arrest the growth of the tumor. It was believed to grow more rapidly afterwards.

Twelve months ago Dr. Baskette and myself were consulted in the case, when the entire removal of the diseased bone was advised. Refusing to submit to the operation, he was permitted to take his own course. He now presents himself again for treatment, and urges an operation. The general appearance of the jaw, as well as the specific character of the disease, seem greatly modified since our first interview. Then the whole tumor was evidently an enlargement of the bone; smooth over its surface, and neither painful nor tender to the touch. Now it is much larger, is quite painful, and has a nodulated appearance. In the centre of the tumor are two small round openings, penetrating an inch or more into its body, and from which is discharging a semi-transparent fluid. A little below and anterior to the lobe of the ear is a fungous growth, an inch in diameter, considerably elevated above the surface, with an entire absence of the integuments. The tumor within the mouth is pressing far back upon the fauces, and is beginning to disturb his breathing. The teeth of the upper and lower jaw approximate and cannot be separated without much force. He cannot masticate his food, consequently fluid diet has to be used exclusively. Externally it extends posteriorly behind the lobe of the ear, raising most of the ear, as it becomes very prominent at the articulation. Superiorly, it rides upon the superior maxilla, giving the appearance of a continuous tumor to the external auditory process. Anteriorly, it is equally prominent to near the symphisis. Inferiorly, the upper third of the neck is overreached by it. The primitive carotid artery can be readily felt, but the pulsations of the external carotid cannot be detected. It is evidently pressed upon if not involved in the tumor. The parotid gland certainly has not escaped. It may be entirely obliterated. The tumor evidently occupies its anatomical location.

Jefferson's health is rapidly declining. Originally he was a strong, athletic man, full six feet in height, and weighed, when well, 200 pounds. He now presents an appearance quite different—is somewhat emaciated, and is fifty pounds lighter than his usual weight. Passes restless nights, and frequently has paroxysms of fever. When quiet and free from fever his circulation

is nearly natural. There is no discoverable organic lesion. Scrofula has existed in some branches of his family; his immediate kin, though, are unusually stout and healthy.

The question as to the propriety of an operation at this time, is one of much interest. Under the most favorable circumstances it would have been attended with imminent danger to the patient. Now the danger is enhanced by his general bad health. He may not be able to rally from the immediate embarrassment consequent upon the operation. Again, the tumor shows characteristics of malignancy, and re-appear during the healing process. The certainty of death if left alone, and the possibility of recovery by an operation, afford the only arguments in favor of the latter course. After consultation with a number of medical gentlemen, in which all the difficulties and prospects were freely discussed, we have determined upon the removal of the bone. Tuesday, 3d, of February, 1857, is the time selected.

The following named gentlemen were present and assisted in the operation: Prof. Buchanan, Drs. Baskette, Clayton, Robison, Smith, Wasson, Richardson, Keyes, and Mr. Buchanan, medical student.

Chloroform was administered by Dr. Baskette. It may be necessary to remark here, that it was not intended that anæsthesia should be employed during the entire operation.

The regular steps, described by surgeons to be observed in the performance of this operation, could not be strictly regarded in the present case. The size of the tumor, as well as the diseased integuments, involving a large portion of its central aspect, necessarily compelled us to modify, to some extent, the usual mode of its performance.

Commencing at the left angle of the mouth, an incision was carried downward and backward, to a point near the anterior base of the tumor; thence directly backward to the angle of the jaw. A curvilinear incision was next made, commencing at the termination of the first, and passing upward and backward over the cheek, to near the external auditory process, from which point the circuit was completed, by the incisions becoming continuous at the angle. The object of this ellipsis, made as above

described, was to separate the sound from the unsound flesh, as displayed upon the face of the tumor. The next step in the operation was a free dissection of the integuments from the external face of the tumor, with the view of progressing as far as possible before attempting to divide the bone. This having been accomplished by continuing the dissection to the symphysis, the next object was its division at that point. This was easily done with the chain saw. A needle, attached to the saw, was inserted from within the mouth, and passed out below the symphysis. The bone was delivered from below upwards. Thus far the tumor proved to be very vascular. The hemorrhage, though, was from a great number of small vessels which supplied it superficially—the facial being the only artery requiring the ligature. Attention was next directed to the internal surface of the tumor. This part of the operation was both tedious and difficult, owing to the undefined character of the diseased mass, which occupied so large a portion of the mouth. It was not only troublesome to get at, but in addition seemed to be almost immoveably impacted within the surrounding tissues. Having finally succeeded in effecting its separation, by which the muscles, connecting the bone to the tongue were divided—another and more serious difficulty was presented, which but for the prompt assistance rendered, would have cost the patient his life. Whilst using a good deal of force laterally, for the purpose of freeing the tumor from its hitherto firm attachment, the jaw of the opposite side was brought somewhat obliquely across the mouth, when retraction of the tongue occurred, followed by immediate suffocation. The patient was convulsed for a few minutes, but the removal of the cause relieved the embarrassment, and he was able to breathe again. The tongue was now secured by a ligature, and held firmly during the remainder of the operation. It will be observed, that thus far the portion of the tumor involving the angle and the articulation remained undisturbed. Owing to the existence of the large blood vessels which must be guarded against at that point, and the certainty of having to divide some of them, it was determined that this part of the operation should be deferred for the last. This precaution resulted fortunately,

as will be shown in the sequel. Having arrived at this stage of the operation the dissection was carried deeper below and behind the angle of the jaw, when the tumor was discovered to involve the external carotid artery, the division of which was unavoidable. Whilst preparing to ligate the vessel, the liberated extremity of the bone was grasped firmly in the hand, and forcibly drawn upward, when it suddenly gave way at the joint, and the whole mass was removed without further trouble. There was no difficulty experienced in securing the vessel. No other vessel required the ligature. The general oozing of the wound, which promised to become troublesome, was readily arrested by the application of creasote and the actual cautery.

The long continued pressure of the tumor upon the surrounding parts had produced much destruction. A portion of the superior maxillary bone was entirely absorbed, leaving the antrum Highmoreanum exposed to view. The parotid gland was obliterated, as was also the sub-maxillary gland. The external carotid, though divided and ligated, was so much reduced in size as hardly to be entitled to the name carotid.

The patient, though quite feeble, had borne the operation well. The loss of blood was much less than was anticipated. A temporary dressing was applied over the wound, and the patient placed in bed to await re-action. Being unable to swallow, external remedies alone were relied upon to promote re-action. In a few hours he had sufficiently recovered to undergo the annoyance of a permanent dressing of the wound. The upper and lower jaws of the opposite side were brought together and firmly secured by small silver wires passed around the teeth. The tongue was made fast by tying the ligature to one of the wires. About two-thirds of the anterior portion of the wound was brought together by the interrupted suture. The balance was filled with lint, well oiled. Strips of isinglass plaster were applied to assist the sutures, and over the whole a bandage was securely adjusted. Thus terminates our first day's work on Jefferson. Which, to say the least of it, was enough for one day.

Feb. 4, 8 o'clock, A.M.—Jefferson rested tolerably well

through the night and slept some. Re-action was fairly set up within twelve hours after the operation. Pulse now 100, with symptoms generally favorable. Is able to swallow, but refuses to take food. 6 o'clock, P. M., pulse 110—no material change otherwise since the morning visit.

5th. Pulse 100. Drinks some gruel with relish, and seemed quite cheerful. Continued so during the day.

6th.—Appetite good—pulse 96. Dressed the wound. Union by first intention, as far as the sutures extended. Some granulations setting up in the open part. The ligature is removed from the tongue—no embarrassment followed its removal.

7th.—Symptoms still favorable. His spirits buoyant—pulse 86—appetite good. The wound seems to be doing well—bowels moved spontaneously.

9th.—Jefferson complained to day of his jaw. When the dressings were removed, some superficial sloughing was discovered in the upper portion of the wound. Had no appetite and refused to take food. Apply lint, saturated with the undiluted tinct. myrrh to the wound.

10th.—Seems more cheerful to-day. His appetite has returned. Pulse natural in frequency and force. Wound looks better. Says he has more strength.

14th.—Since the last report his improvement has been progressive. To-day his general condition is favorable. Wound granulating freely. Appetite good—pulse natural.

15th.—Some sloughing in the upper part of the wound. Condition otherwise unchanged. Wound near the angle of the jaw large and open.

16th.—Doing well. Closed the wound further, by two sutures and a pin.

20th.—Removed the sutures and the pin. The wound has nited as far as the sutures extended.

The subsequent treatment in this case continued in the daily dressing of the wound with basilicon ointment. No unfavorable symptoms occurred to retard his recovery. He was discharged at the end of six weeks from the date of the operation, greatly improved in his general health, with almost an entire healed con-

dition of the wound. He is now, at the expiration of nine weeks, in the enjoyment of good health. The wound has nearly entirely healed.

The Tumor. The whole mass, when removed, weighed 3 lbs. 4 oz. At the articular extremity a large blunt rounded appearance is presented, in which the processes are so completely inserted as to destroy all appearance of a joint. This accounts for the ease with which the tumor was removed from its articular connection. As to what is the specific character of the tumor there is certainly some doubt. A few facts only will be presented in connection with its history, which may be of more service in arriving at the truth, in connection with its pathological characteristics, than any speculation that might arise in the investigation.

That it was originally a bony tumor—an enlargment of the bone proper—is without doubt. For five years this was its pathological condition. One fact is offered in proof of this. I witnessed the operation referred to above, as performed by Dr. Abernethy. The exposure of the tumor in this operation, as well as the portion of it which was removed, shows unmistakably that the growth was bone without complication. Since then a disorganizing process having been set up the bony character of the tumor has been supplanted by fibro-cartilaginous deposits, in which is found spiculæ of bone, the result of a reformation, no doubt, of bone, from the existing cartilaginous deposit, as takes place in the normal changes to bone from cartilage.

It is evidently what the Pathologists, of a few years ago, would call an osteo-sarcoma—not the enchondroma of later writers, because there is evidently fibrous texture in the tumor. A fibro-cartilaginous tumor, interspersed with spiculæ of bone, supervening upon an original growth of bone, comprehends all that can be collected from a superficial examination of the specimen.

This process of disorganization of callous growths, with the formation of fibrous and cartilaginous tissue, either together or separately, is clearly established. Stanley, Rokitansky and Paget, whose opportunities have been abundant for investigation and pathological research, all concede this point. Indeed it is doubted by no Pathologist of the present time.

ART. XI.—*Influence of the Mother upon the Fœtus in utero.* By W. P. MOORE, M.D,, of Mitchellville, Tennessee. Read before the Tennessee Medical Society.

Anatomy forms the ground work of all medicine. When the various organs of the human system, and their relations to each other, are understood, with the aid of physiology we can explain every action of the machinery. Hence, for want of this understanding the science of medicine has been clothed in error, and woven in many colors from the time of Hippocrates to the present. Cliques have had their day, systems have had their rise and their fall, the doctrine of to-day would not be the doctrine of to-morrow; theories, based upon false notions of pathology, have carried away the people for a season with a force equal to their absurdity, to give place to others fully as erroneous. It was amid this catalogue of pathies and isms that error had its origin and these false pretences were promulgated, which tradition has revised, and skepticism re-editioned until our books teem with them to the utter astonishment and confusion of the student.

Therefore we have come here to-day, gentlemen, to elicit of you some remarks calculated to settle in our mind the facts in relation to one of these popular errors, one which seems to us entitled to the first rank of such errors.

Will an impression upon the mind of the mother have any effect in marking the Fœtus in utero?

1st. In the vegetable kingdom we have life without sensibility though many classes are divided by the botanist into male and female, and a union of the two found necessary to a reproduction or continuation of the species, all of which takes place in accordance with physiological laws as easily of demonstration as those by which the human being is governed, and in many particulars these laws are very much allied to those of the animal economy. Here we have no complex nervous system with its thousand sensibilities, no mind with fear or anxiety to impress, yet the deformities in both form and color are of endless variety.

These deformities are owing to each case, as with the human, to an error relative to the laws of development. In many cases the nutritive functions are insufficient while in others they are in excess, and mark upon the subject plain evidences of such variation.

2d. Amongst the lower animals we have life, sensibility with imperfect intellect. In the mammalia generally the nervous distribution is similar to that of the human, and the connexion between the mother and fœtus is in accordance with the same laws. We find during utero-gestation that every accident to which the lower animals are subject attends the human female. Abortions can be brought about by the same remedies, and in the two the physiological actions are precisely the same, and are independent of the control of the mother. Here during utero-gestation we have anatomy and physiology blended together in the two species, with a similarity which science cannot separate. In the lower animals we have no care manifested by the mother for her unborn child, no dread of an unfortunate issue, yet as with the vegetable kingdom, we have monstrosities, marks, etc., so remarkable that they have been noticed by the most ancient writers. The same general law which governs this governs the human.

The great Author has impressed each thing with a particular type which operates uniformly. The varied marks which have received so much attention are to be attributed solely to departures from a normal line in the developmental forces, over which the mother, as it is with the vegetable, has no control whatever. The type can be changed only by an admixture of blood, influence of climate, habits, food, etc,, laws which are purely physiological, but never by the imaginations of the mother.

3d. In the human female we have life, sensibility of the highest grade. It is with her that we find the great apprehensions, the unhappy hours during utero-gestation, the unfounded notions of deformity, which in many cases are sufficient to interrupt her general health.

The origin of this false doctrine with regard to the influence of the mind of the mother upon the fœtus is coeval with the

earliest history of medicine. It was founded in ignorance, and a thousand cases have been recorded in its favor by those who knew nothing of anatomy, yet the antiquity of its source, or the supposed evidence of its truth are worthless when they are at variance with anatomical science.

Anatomy is the great lever in straightening the false doctrines which have ever exerted so dangerous an influence upon the vitality of the science of medicine, hence in the discussion of this subject arguments that are not founded upon it are entitled to no weight whatever—for the laws connected with the human system are natural, and are not less easy of interpretation than those of natural philosophy.

1st. The uterus is so situated that it is free from any influences of the woman's will, therefore she cannot control any of its actions.

2d. Any action of the mother's mind must be carried on through the nervous system.

3d. There is no communication between the nerves of the mother and child.

4th. In the fœtus we find a distinct circulation independent of any direct communication with the mother.

5th. By imagination we find it impossible for the mother to cause any mark upon her own skin, how then can she impress that of her child?

6th. If it were in the power of the mother to exert an influence on the fœtus so strong as to cause deformity, she could seldom carry it to the full time of utero-gestation.

7th. If the mother possesses a power sufficient to impress her child with an image of any particular object longed for by her, why does not the impression resemble not only in form, but have the size and color of the object longed for?

8th. If the mother through her imagination can cut from the child an arm or leg, what becomes of the dissevered member?

9th. If the mother by the aid of imagination can influence the fœtus as above, why do we find the same effects among the lower animals, and in the vegetable kingdom?

10th. In two thousand cases, investigated by the late Dr. William Hunter, not a single one coincided with the notions of the mother.

Gentlemen, this subject is of the first and highest importance. And while we presume that the most of you agree with us, we have noticed in the Journals, that it is not settled in the mind of quite a number. Hence it should receive the attention of every enlightened physician, for errors so pregnant with evil should be eradicated from the profession. Although we deny that the mother is able by her imagination to produce any particular mark upon the fœtus, take from it a limb, or cause a mole to appear upon its surface, yet she possesses in a very eminent degree the power of disturbing the general health of both herself and her offspring, besides an indulgence in such errors, though foolishly false, often renders the period of pregnancy, which should be the most tranquil and happy, the most miserable and desponding.

ART. XII.—*Case of Unruptured Hymen after twelve years enjoyment of Connubial Privileges.* By R. THOMPSON, M.D., of Nashville, Tenn. Read before the Tennessee Medical Society, April 7, 1857.

Mrs. ——, about thirty-five years of age, of usually robust health, had been happily married over twelve years, but having failed to obtain *pledges of love*, consulted me as to the cause. Upon inquiry I ascertained that the catamenia had always been regular as to recurrence, but continued an unusual length of time, always became dark and fœtid toward the termination, and contrary to what is observed in dysmenorrhœa, there was no pain or constitutional disturbance at the commencement of the period, but these symptoms invariably supervened after a few days, becoming more intense toward the close, often extending through the second week, so that the period occupied near half the entire month.

As these symptoms were rather peculiar, I judged there was an abnormal condition of the reproductive organs, and suggested a vaginal examination. To this she objected; but after several unsuccessful efforts to correct the condition of things, finally consented, when to my surprise I found the vagina terminated in a complete *cul de sac* about two and a half inches from the vulva.

As the walls felt perfectly smooth and elastic, giving no evidence of cicatrization, and she had never suffered vaginitis, and especially as she avered that the parts had always been in this condition, I felt assured that it was a case of *Unruptured Hymen*. As the catumenia had found a place of exit, I knew there must be an aperture, but for a long time was unable to detect it. The speculum showed a smooth, unbroken surface, the *tactus eruditus* failed to detect any prominence or indentation which might indicate the point of connection between the divisions of the vagina. But after fully failing to discover it where it *probably* was, I turned my attention to where it possibly might be; and finally established its position about midway of the parietes of the vaginal sac, near an inch behind the meatus urinarius, just where I should at first have looked for it, but was misled by the hymen having been thrust upward until it apparently formed a part of the true vaginal walls. Into this opening I succeeded with some difficulty in introducing a small silver probe, which, having passed the barrier, played quite freely within, showing that there was plenty of vagina above.

This condition of things fully accounted for the symptoms attending the menstrual period, for as the discharge found an exit with difficulty, it collected in the posterior part of the vaginal cavity above the septum, and was there retained until partial decomposition took place, giving rise to the pain, fœtor and nervous disturbance attending the latter part of the menstrual period. The first idea that suggested itself was to divide the septum; but as it had proved itself possessed of sufficient solidity to successfully resist the shocks incident to the *wars of venus* for so long a period, I feared that its division might be attended with troublesome hemorrhage and constitutional disturbance. But feeling assured, by carefully watching the play of the probe, that the parietes were quite thin immediately below the aperture, I cautiously thrust a narrow bistoury by the side of the probe, turning the cutting edge from the bladder, making an aperture sufficient to permit the passage of a common sized silver catheter. But although the cutting occasioned no pain and was followed with very considerable hemorrhage, yet as I was satisfied that

the walls of the septum increased greatly in thickness immediately below the incision, I desisted for the present. A few days subsequently considerable cerebral disturbance came on, whether from the incision, or from some other cause, I cannot say, but it made me fearful of again resorting to the knife, and I laid the case before my friend, Professor Bowling, who suggested that a trial be made to dilate the aperture by the use of slippery elm bougies. I caught at the idea, and immediately put it into practice with the most happy and entire success.

Commencing with one of the size of a crow quill, I daily replaced it with one slightly larger, until in a few weeks one of an inch and a quarter in diameter could be introduced with facility. Believing that this was sufficient for all present practical purposes, I concluded to trust to natural processes for further development, which proved to be quite adequate to the task. Although the menstrual function has since been performed with great facility, and without pain or nervous disturbance, and the uterus clear of disease, yet the main object of the operation has not yet been obtained, viz., fecundation. This may be owing to the fact that the *os tincæ* had found a resting place in the posterior portion of the sac, above the septum, and still remains imbedded in such a way as that it does not correspond to the plane of the vagina, which *error of position* may probably yet be remedied. But though the maternal desire has not been gratified, the shortening of the catamenial period, and freedom from suffering which has been secured, amply compensate for the trifling inconvenience which attended the cure.

As my method of preparing the slippery elm bougie may be new to some, I will here describe it. I select a good article of bark and split it as fine as I conveniently can without breaking the fibre, then select as many of these pieces as will make a bundle rather larger than the bougie is wanted to be, dip them in water and rub them together in the hand, occasionally dipping them again into the water. After continuing this process until a thick jelly is formed upon the surface of the splints, I wrap the whole together with twine, running it backward and forward until the whole is tightly and evenly compressed. Now put it

away to dry, or if one is wanted soon put it into a hot place by the fire, or on a stove. When thoroughly dried remove the twine, and with a sharp knife give it the smoothness, size and form required. It appears as one solid piece of bark.

PART II.

MONTHLY MEDICAL RECORD.

OBSTETRICS.

1. *Vesico-Vaginal Fistula.—A Report read before the Medical Society of the State of Georgia, at their Annual Meeting, at Augusta, April 8th*, 1857. By P. M. Kollock, M.D., Prof. of Obstetrics and Diseases of Women and Children, in the Savannah Medical College. (Concluded.)

In this pamphlet, Dr. Bozeman describes "a new mode of suture"—original with himself—which he offers to the notice of the Profession, with a confidence founded on the results of the trials which he has made of it. He ascribes the discovery of this new suture to his repeated disappointments of the clamp suture of Dr. Sims' even in cases where, from their favorable nature, failure was not to be expected—and particularly in a case of double fistula, to which it proved so utterly inapplicable, that he was about to abandon the case in despair, when an accident, similar to that which revealed to Newton the Law of Gravitation, pointed out to him the road to success.

In the case of double fistula, to which he alludes, he attributes the failure of the clamps to the irritating effects of the urine on the edges of the fistula; and he says, "I became satisfied that I should never be able to cure the case, unless I could invent some contrivance by which either to close both openings at one operation, or to afford complete protection to the denuded edges of one during the healing process." "To contrive an apparatus that would fulfill one or the other of these indications, required, I supposed, much more inventive talent than I possessed; and after a little thought I abandoned all hope of providing any thing that would answer the purpose. Sometime afterwards, however, while buttoning my vest, it occurred to me that a somewhat similiar process might be applied to such cases as the one above cited, and after turning the matter over in my mind, I determined to put the idea in practice. Accordingly I made a contrivance on the button principle, and applied it in a case where clamp

suture had failed three times. The result was, as it has been in every trial since, as satisfactory as could be desired."

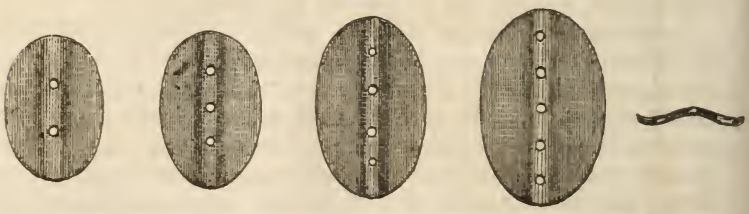
In accordance with the manner of its discovery, and also its mode of action, Dr. Bozeman has dubbed it the "Button Suture;" and remarks, that it is "only a modification of the twisted" suture.

"The essential parts of the apparatus consist of wire for the sutures, a metallic button or plate, and perforated shot to retain the latter in its place. The wire should be made of pure silver, about the size usually marked No. 93, and properly annealed. A length of about 18 inches should be allowed for each suture.

"The button possesses several peculiarities. It may be made either of lead or silver. The former, hammered out to the thickness of one-sixteenth of an inch, answers the purpose tolerably well. The latter can be made still thinner, and does better, on several accounts; it is lighter, less likely to yield under pressure, admits a higher polish, and allows the wires to be drawn through the holes without dragging."

The size and shape of the button will depend upon that of the fistula. The most common shape is oval. It must be concave on the under side, or that which lies in contact with the fistula; the edges must be slightly turned up, to avoid irritating the vaginal lining, and it must be perforated in the centre with holes proportioned in number to the number of wires which it is found necessary to introduce; and the holes must be of sufficient size to pass the wires double.

Fig. 1.



Full size. End view.

Dr. Bozeman recommends that the sutures should be placed about three-sixteenths of an inch apart. The size of the perforated shot, should be No. 3 bird shot.

The first steps of the operation do not differ materially from those of Dr. Sims. The position of the woman may be the same. Sims' speculum answers every purpose. And the freshening of the edges may be done in the same manner and with the same instruments. The wires are passed only through the mucous coat of the vagina, by means of silk threads. Dr. B. uses, for

this purpose, a stout straight, spear-pointed needle, and introduces it about half an inch from the freshened edge.

Fig. 2.

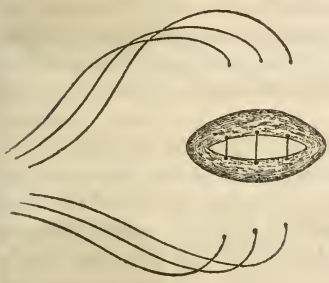


Figure 2 is a representation of the fistule of the most common shape, with its edges pared in the bevelled manner heretofore mentioned, and the silver wires drawn through.

Fig. 3.

The wires being lodged in their places, the ends are brought together, and the edges of the opening approximated as accurately as possible. For this purpose a steel rood, (Fig. 3,) fixed in a handle, perforated and flattened and raised into a kind of knob on one side at its distal extremity, (called by Dr. B. the "suture adjuster,") is employed—the ends of the wires being passed through the hole at its extremity, and the instrument run down (the knob downwards) upon the edges of the opening at each point where the wires have been inserted.

The doubled wires are then passed through the holes in the button, and this last pushed down upon the approximated lips of the fistulous opening.

Fig. 4.

The appearance of the parts after all the sutures are adjusted is faithfully represented in Fig. 4.

A perforated shot is then run on each doubled wire until it comes in contact with the button, against which it is held with sufficient force by strong forceps, and there pinched with the forceps, so as to prevent their slipping back.

The wires are now cut off about a quarter of an inch from the shot, and the ends may be separated and bent down over the shot, which prevents their irritating the vaginal wall as it collapses, and aids in securing the shot.

Fig. 5.

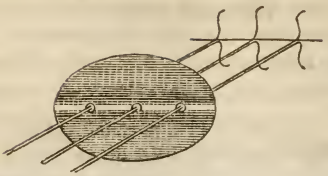


Fig. 6.

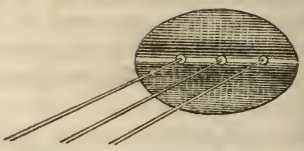


Fig. 7.

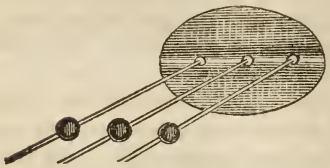


Fig. 8.

Figures 5, 6, 7 & 8, represent different stages of the application of the button and the shot upon the wire, as taken from Dr. Bozeman's pamphlet.

Sims' catheter may now be introduced into the bladder, the patient put to bed, and the after treatment is the same as that recommended by Dr. Sims.

The sutures are not to be removed until the 10th or 12th day.

Dr. Bozeman's pamphlet gives the details of four cases of vesico-vaginal fistula treated by him with his button suture.

Case No. 1, was of three years standing; the clamp suture had failed after three trials. It was cured by one operation with the button suture.

Case No. 2. Double fistula, of seven months standing—cured by two operations with the button suture.

Case No. 3. Double fistula, of eighteen years standing—two successful operations with the button.

Case No. 4. Double fistula of nine years standing—several failures with clamp suture; cured by the button.

My own experience with the button suture may be illustrated by the detail of two cases; which will also show how much right I have to express an opinion concerning its merits, and to how much weight my testimony is entitled.

Case 1st. Dolly—a negro belonging to Mr. Jacob Waldburg, of Savannah—was brought from St. Catherine's Island, her residence, to be treated for an incontinence of urine, which succeeded a very severe and protracted labor. It was ascertained that she had a fistulous communication between the bladder and vagina, about two inches from the vulva, its longest diameter one inch, situated transversely to the vaginal axis. An attempt was made to close the opening by Sims' method; but although the

case seemed to be well adapted to this treatment, and promised a favorable result, such did not occur—the sutures cut themselves out in a few days, and, if any thing, she was left in a worse condition than before the operation. Her master, discouraged from any further attempts to cure her, sent her back to his plantation, where she remained about eighteen months. At the end of that time, she was brought up to Savannah again and placed in my hands.

I found, on examining her, that the fistula was much reduced in size, and that the longest diameter (about ½ inch) was situated parallel with the axis of the vagina. The mucous membrane was somewhat excoriated around the fistula.

On the 15th day of January, 1857, the bowels having been purged on the day previous with castor oil, the patient was secured on the operating table, in the kneeling position—etherized—Sims' speculum introduced into the vagina, which was lighted up by means of a looking-glass, as has already been described. My assistants were Drs. Wragg and Charlton, and Messrs. McFarlane and Johnson, students of the Savannah Medical College. A semi-lunar incision was made, with a small double-edged knife, curved on the flat, at the distance of ⅓rd of an inch from the free edge of the opening, on each side, and the mucous membrane of the vagina dissected off. With a short, curved needle, armed with silver wire, (without the intervention of silk thread,) and fixed in Sims' grooved forceps, three points of suture were made—the needle being introduced ½ inch from the freshened edge, and passed only through the vaginal mucous coat. The ends of the wires were then brought together, the edges of the wound placed in apposition, the double wires passed through perforations in a button made of lead, and secured by the perforated shot. The wires were cut off about ¼ of an inch from the shot, the ends separated and turned down over the shot.

Sims' catheter was introduced and the patient was ordered opium, in 2 grain pills, to be repeated sufficiently often to allay pain, procure rest, and constipate the bowels. Diet—crackers and tea.

Jan. 16th. Complains of pain in the bowels and nausea, and towards evening vomited, probably the effects of opium, having taken it pretty freely. Prescribed poultice to bowels and cold water to head—stop opium and substitute paregoric.

Jan. 17th and 18th. More comfortable; anorexia.

Jan 22nd. Speculum introduced and parts examined—every thing in satisfactory condition. Unusual difficulty in retaining catheter in proper position—it has a tendency to turn; to pre-

vent which, lint spread with cerate is packed around it, the catheter being passed through a hole in the lint, which also protects the vulva and perineum from the action of the urine as it flows from the end of the catheter. Catheter removed once or twice a day, and cleansed, and vulva and vagina well syringed with warm water.

Jan. 25th. Sutures removed. Perfect union of the edges throughout the whole length of the fistula; urine perfectly retained; every part healthy in appearance. The catheter was retained in the bladder five or six days longer.

Jan. 27th. Bowels moved by a warm water enema; and she was allowed to quit her bed on the 30th.

I have been very agreeably surprised at the very satisfactory result of this case; for I felt that my first attempt at manufacturing the button must be rude; and moreover, after its application, several drops of urine were observed to pass through the middle perforation of the button.

Case 2nd. Leah—negro—owned by a rice planter on Savannah river; sent to town to be treated by Dr. J. A. Wragg, the attending physician, for incontinence of urine, one of the sequelæ of a difficult labor.

Vesico-vaginal fistula was diagnosed at the distance of 1½ inches from the external orifice of the urethra—its longest diameter rather more than an inch, and situated transversely to the vaginal axis; hernial protrusion of vesical mucous coat, covered with red vascular granulations, which interferred very much with the operations which were performed, and was on one occasion removed with scissors. Her ability to retain urine for a single moment was almost null, and she experienced the usual amount of excoriation and suffering.

An attempt was made to close the fistula, on Sims' plan, soon after her arrival in town, (during the spring of 1855,) by Dr. Wragg, assisted by several medical friends and myself. This operation resulted unfavorably, as well as a second and third.

The last operation was performed by myself, on the 4th day of July, 1856. The case seemed to be every way favorable for the operation, which was performed with great care and judgment in each case, and the failure was as unexpected as it was vexatious.

As very much depends in such cases, upon the treatment subsequent to the operation, this was followed up faithfully and perseveringly in every instance.

After the last operation, as the edges of the incision became covered with granulations, and the flow of urine had ceased

through the fistula, I was encouraged to hope that union had occurred, and accordingly the catheter and recumbent position were retained, and the constipation of the bowels not removed until the end of fifteen days, when it became evident that the operation had failed.

The patient was returned to her master's plantation for the recuperation of her general health, which had suffered somewhat by the confinement.

January 1st, 1857. Leah returned to town for the purpose of undergoing a fourth operation; and having succeeded so satisfactorily in the other case, I determined to give her the chance of a button suture of Dr. Bozeman.

The fistula was in very much the same condition as when I last operated on her.

The mucous membrane of the vagina was somewhat inflamed and excoriated, and there was calcareous deposits on the edges of the opening, and on the hair of the vulva and perineum. Accordingly, the excoriations were repeatedly touched with nit. arg. and a solution of sulph. zinc (ʒj. to Aq. Oj.) was thrown into the vagina twice a day; also, she was put upon the internal use of sulphuric acid (ʒj. to Aq. Oj., one wineglassful three times a day,) for the purpose of altering the character of the urine, and preventing farther deposition.

February 19th. The operation was performed,—the patient having been prepared as usual, by previous purging—being etherized and placed in the same position as in the previous operations. Denudation having been properly effected by a transverse elliptical incision with the knife curved on the flat, at a sufficient distance from the anterior and posterior lips of the fistula, and only through the vaginal mucous coat, five points of suture were established, by the introduction of silver wire, with a small curved needle threaded directly with wire and not silk.

The edges having been carefully brought together, the ends of the wires were passed through the perforated holes of a silver plate, oval in shape, one inch in length, and five-eighths of an inch wide; the plate pressed down and secured by the shot upon the fistulous opening. The contact of the urine with the fistula was prevented by the introduction of the catheter. Paregoric was freely administered instead of opium.

Examination on the fourth day exhibited a satisfactory state of everything. The sutures were removed on the tenth day, and a perfect cure was witnessed. She was confined to bed, and the catheter retained for six days longer, when the suture points being nearly obliterated, the catheter was removed and she was

allowed to leave her bed. I examined her for the last time, on March 21st, and was enabled to pronounce her perfectly cured.

I have thus detailed three cases occurring in my own practice, and treated by suture, on the two principles which may now be regarded as most worthy of confidence; and I think it will be conceded that I may, without very great presumption, claim the right to testify to their respective merits. It is to be remarked that in the treatment of these three cases, nine operations by the clamp suture were performed—seven, by the clamp suture of Dr. Sims' and the other two, by the button suture of Dr. Bozeman.

The clamp suture failed in every instance to effect a cure; even in the two cases which seemed as favorable for its success as could be desired. The button suture succeeded perfectly in both cases, on the first trial. The preference must, therefore, be given without hesitation to the latter. And I fully endorse the statement of its discoverer, who claims for it the following advantages:

1st. It protects the edges of the fistulous opening against the irritation of the urine, of the vaginal discharges and the atmosphere.

2nd. It prevents the wires from cutting out.

3rd. It acts the part of a splint, in keeping the approximated edges in close contact, and at rest.

I consider this suture the greatest improvement that has ever been made in the treatment of this class of cases. The surgeon can now approach them with a confidence of success, before unknown. The profession and the public owe to Dr. Bozeman a debt of unspeakable gratitude. He has achieved an exploit, of which he has more reason to be proud than if he were the hero of an Austerlitz or a Waterloo.

It is probable that other surgeons may make some slight alterations, in the employment of this method of operating, to suit their own convenience, and their own peculiar manner of manipulating. I think that the silk ligature, which is used both by Dr. Sims' and Dr. Bozeman, for conveying the urine to its place, is an unnecessary complication. I have observed no disadvantage to result from threading the needly directly with the wire.

I prefer a needle smaller, and more curved at the point, than is recommended by either of these surgeons.

I have observed no disadvantage to result from placing the patient under an anæsthetic agent; it insures rest and freedom from suffering. The patient, Chloe, could not have been controlled without it.

The urine very frequently deposits calcareous matter on the edges of the fistulous opening, which has a tendency to prevent union. This may be prevented by medicating the urine, by the exhibition of sulphuric acid, for some days previous to the operation, as was suggested to me by my friend Dr. James B. Reid, who was one of my assistants in several of the operations.

I have had constructed a very convenient operating table, which I have reported.

Its dimensions are 3 feet by 4,—30 inches high. On the table is erected a square frame 2½ by 2 feet, open in the middle, the side pieces 2 inches wide, and ¾ of an inch thick; these are supported by legs of the same shape and size as the sides which are attached to the frame by iron hinges, so that the frame can be placed at any angle with the legs. The legs are let into morticed holes in the top of the table, so that they can move up and down, and elevate or depress the frame or platform which supports the trunk of the patient's body, and suit it to her height. The extent of elevation is regulated by pegs inserted into holes in the legs of the table.

In this manner, the patient's trunk is supported in a kneeling position—a folded blanket having been thrown over the supporting frame-work, one end resting on the table, to protect the knees from the hard surface of the table. The arms and legs of the patient are secured by straps to iron rings screwed into the table, and her body by a saddle-girth to the supporting frame work; so, that she is incapable of moving in case the anæsthetic does not quiet her sufficiently, as sometimes occurs.

It is usual to allow the urine to dribble from the end of the catheter, and be absorbed by cloths placed under the nates. With all the care that can be exercised, inflammation and excoriation of the vulva and nates will occur, and the patient is kept in a very uncomfortable state.

I have no doubt that an apparatus may be so arranged for receiving the urine, made of some water-proof material, as to prevent this inconvenience.

I prevented it in a measure, in the last two cases reported, by passing the external end of the catheter through a hole in a piece of patent lint spread with cerate, and sufficiently long to cover the lower part of the vulva and perineum.

ANATOMY AND PHYSIOLOGY.

1. *Letter from* Prof. HENRY F. CAMPBELL, M.D., *of Augusta, Ga., to* MARSHALL HALL, M.D., *of London, establishing his claim to priority in the discovery and naming of the Excito-secretory system of Nerves.* (Concluded.)

The circumstance of my second published record are the following:—At the fifth annual meeting of the American Medical Association, (1852) held in Richmond, Virginia, not being present myself, I was appointed a special committee, to prepare an essay on the subject of TYPHOID FEVER, which essay was read before that body in New York, in May, 1853. In this paper, I took occasion to consider carefully, the ganglionic system, in the support of the position therein assumed, *that* all *Typhoid Fevers were manifestations of disease through the secretory system of nerves.* While thus engaged, my attention was called to certain experiments performed by Mons. Claude Bernard, of Paris, and made public through the Gazette Médicale, and translated in the New Orleans Medical Register, together with his deductions therefrom.

On examination, finding that they contained, what at that time, appeared to me, the germ of a theory similar to mine, recorded in June, 1850, though he refers to them as "a set of phenomena *identical* with those occurring in the cerebro-spinal system of nerves, denominated Excito-motory by Dr. Marshall Hall," while I had deduced this *Excito-secretory* system (in 1850,) saying "*analogy* with the *Excito-motory* system will much assist us in our argument; and further, inasmuch as this distinguished gentleman's report presented itself to my mind at that time, somewhat in the form of an announcement, I deemed it advisable to appeal to our National Medical Congress, in the following brief memoir, *praying permission to record before them*, MY CLAIM TO PRIORITY, and also my protest against the claim of originality attaching to Mons. Claude Bernard.

ABSTRACT FROM THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION; MEETING HELD IN THE CITY OF NEW YORK, MAY, 3rd, 1853.

Dr. CAMPBELL, of Georgia, submitted a paper, on a question of priority in reference to the discovery of the reflex relation subsisting between the cerebro-spinal and sympathetic system of nerves.—*See Minutes of Sixth Annual Meeting*, vol. vi., page 49.

"*On the Sympathetic Nerve in Reflex Phenomena.* By HENRY F. CAMPBELL, of Georgia.—" In a recent number of the *Gazette Medicale* appear some remarks,* by M. Cle. Bernard, on the Reflex Actions of the Nervous System. In these, he refers one order of such reflex phenomena in the sympathetic system of nerves, and illustrates, by experiments upon the frog, as well as by reference to many of the acts of nutrition and secretion, and such a relation exists between the cerebro-spinal and ganglionic system of nerves, as well as between the excitor and motory portions of the cerebro-spinal system. Or, in his own words, " two kinds of nerves are requisite for the production of these reflex phenomena of organic life; the first, transmits the impression to the nervous centres; the second, to the viscera. With one order of these nervous filaments is always connected a ganglion of the great sympathetic. Example: the lingual nerve transmits the impression of the taste to the nervous centres; a special nerve then conveys a corresponding excitation to the submaxillary gland; on one of these nerves is situated a ganglion of the sympathetic, the submaxillary ganglion," &c. He gives several illustrations of this fact, and further appears to be of the opinion that this set of phenomena are *identical* with those occurring in the cerebro-spinal system of nerves denominated *excito-motory*, by Dr. Marshall Hall; but with this latter part of his paper we have nothing to do. It is only with that portion in which he appears to claim as his own, the suggestion of the theory that there does exist such a reflex relation between the sympathetic and the cerebro-spinal systems, and his presentation of it as an observation entirely new.

"Now, we are not aware of the exact length of time that these views have been held by physiologists; they may be odd, or on the other hand, they may be of recent suggestion; but certainly, we cannot award to M. Bernard the merit of being the first to express such views in relation to the functions of the sympathetic system of nerves; and while we are exceedingly reluctant to refer to our own humble labors in connection with the brilliant discoveries of this most philosophic and able observer, a sense of duty to ourself as a member of this National Association, prompts us not to allow this assertion to pass unchallenged.

"A reference to a paper presented by us to the Medical Society of Augusta, Georgia, and published in the *Southern Medical and Surgical Journal*, on the Influence of Dentition in producing Disease, will show that this subject was fully discussed by us as

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*Translated by the New Orleans Medical Register.

early as June, 1850, and that the whole argument upon which our theory of the mode in which dentition does produce certain morbid results (diarrhœa, for instance) is based upon the supposed existence of such a reflex relation between the cerebro-spinal and ganglionic systems of nerves, as will be seen by the following: After referring the occurrence of *convulsions*, during dentition, to the reflex relations existing between certain nerves of the cerebro-spinal system, viz., the fifth pair as excitor, and the muscular branches of the spinal system as motory, we then endeavor to account for the occurrence of *diarrhœa* by establishing the existence of a similar relation between the cerebro-spinal and branches of the ganglionic system supplying the intestinal canal; which suggestions will be found embodied in the following extract from our essay in the June number of the *Southern Medical and Surgical Journal*, volume for 1850, p. 329: "We have now glanced sufficiently, we think at the anatomy and physiology of the sympathetic system of nerves, to make the application of such points as are pertinent, in the solution of our pathological problem. In its anatomy, we have seen its connections with all three of the divisions of the fifth nerve by ganglia, the connection of these various ganglia with each other, as well as with the cerebro-spinal axis, and lastly, the distribution of branches from these ganglia, which are conducted by the arteries into every part of every one of the splanchnic viscera. In its physiology, we find it in entire charge of the important functions of nutrition and secretion, and that wherever these processes are effected, it is by the agency of this nerve alone upon the blood-vessels. And farther, we have seen that pathology, and experiments upon the lower animals, establish its indispensableness to the due performance of these functions, and that whenever the supply of its innervation has been cut off from any particular part of the organism, that part immediately manifests symptoms of impaired nutrition and altered secretion.

"Now, we are all aware that nearly the whole of the intestinal canal, or rather that portion between the stomach and lower part of the colon, receives no direct innervation from the cerebro-spinal-axis, but it is entirely dependent upon the sympathetic nerve for its supply of nervous influence, of whatever kind it may enjoy, whether motory, sensory, or secretory, and consequently an impairment in the function of this nerve must, necessarily, correspondently, alter its condition, so far as regards all those functions with which this nerve endows it. The alteration in these functions would, of course, depend in a great degree upon the amount of impairment in the source of irritation; thus,

as we have seen, if the supply be entirely cut off, the functions of the arteries seem in a great measure to cease, passive congestions occur, and the parts inflame and ulcerate. Now, we can also very naturally conceive of a condition of these nerves somewhat analogous to the above, yet intermediate between the entire interruption caused by secretion and perfect health; a condition of embarrassed, or perhaps of exalted innervation. Now, this intermediate condition is exactly the state which, from the developments of the foregoing investigations, we feel that we are authorized to affirm is that which occurs as the result of severe dentition, and that upon it is dependent the whole train of intestinal morbid phenomena observable during this process.

"'That this so far is legitimately inferable, we do not think any one will deny. Now let us inquire how far these phenomena are dependent upon dentition; *analogy with the excito-motory* system will much assist us in our argument. We have seen that local irritations can, through this system, produce convulsions by the reflex function of the nerves, the sensitive branches of the fifth pair becoming *excitor* to the *motory* spinal nerves; *and so, we may justly infer, do these same branches, (of the fifth pair,) under certain circumstances, become excitor to the secretory filaments of the sympathetic, so abundantly to the intestinal canal,* by a transmission of this irritation through the various ganglia with which it is connected. *Thus, the irritation at first produces simply an exhalation of the innervation of these secretory surfaces, and consequently secretion is more active than normal, producing simple diarrhœa. A continuance of the irritation alters the character of the secretion, and we have the various morbid discharges observable during this period. This increase and change in the secretion are effected by the agency of the altered function of the* nerve upon the arteries from which these secretions are eliminated. Now, when the innervation of these arteries is still farther embarrassed by the long continuance of the *reflected irritation*, the state of things nearly approaches what was observed in Dupuy's, Reid's, and Pourfour du Petit's experiments of actual destruction of the nerve, and we have ulceration of the the intestinal mucous membrane; all these phenomena being the result of various degrees of injury sustained by the sympathetic nerve. It may here be asked, Why should the branches supplying the intestinal mucous membrane become more implicated than any other portion of the sympathetic system? And why do not similar irritations of the *fifth nerve* produce like results in the adult? To the first of these questions we answer, that most probably the other portions *are* implicated; but the mani-

festations of such implication are greater and graver here than elsewhere, because these sympathetic branches are the sole sources of innervation to the viscus. Other organs are in all probability affected; but, receiving a certain amount of innervation from other sources, most of their functions not being entirely secretory, are still though imperfectly, carried on. But in the intestinal canal the case is far different; the requisitions made upon it are of such a nature that it has need for no other innervation than that of the sympathetic system. Its functions are secretion and nutrition for the whole animal organism; and when these are impaired, its primary, its only intents are altered, or completely nullified. The second question is answered by the greater development of this system in the growing, than in the adult individual, for the purpose of supplying the more active nutrition and secretion, at that time, necessary. We know that disease is more apt to occur in many parts of the body during this period than at other times; this is the general admission. Thus, according to many authors, among whom are West, Churchill, &c., pneumonia and bronchitis are more apt to attack children during dentition than at any previous or subsequent period. Cutaneous eruptions, and many other aberrations of secretion occurring during this period, serve to corroborate our theory of the origin of the morbid intestinal secretion. The increased vermicular action and tormina attending this affection find a ready explanation in the fact, now well established, that the sympathetic receives both motor and sensitive filaments from the anterior and posterior roots of the spinal nerves, endowing the organs of their distribution, to a certain degree, with corresponding susceptibilities.

"'*In conclusion, let us define the position which, at the end of our investigation, we feel warranted in assuming. It is the following; That in the anatomy and physiology, as well as in the dependent analogies of the process of dentition, we find ample ground for the opinion that the diseases pertaining to this period may be dependent, and in many instances, are entirely so,* UPON LOCAL IRRITATION ATTENDING THE PROCESS, BEING TRANSMITTED THROUGH *the cerebro-spinal system of nerves, producing convulsive diseases in the motory apparatus,* OR THROUGH THE SYMPATHETIC, CAUSING DERANGEMENTS OF THE SECRETORY ORGANS, PARTICULARLY OF THE ALIMENTARY CANAL, *by the sway which it exercises over the arterial system from which these secretions are eliminated.*'"

"In the above brief quotation, it will be observed that the doctrine of the reflex function between the cerebro-spinal and

sympathetic systems is plainly enunciated, and not only is the physiological fact noted, but we there also have surmised the *transmission of permanent* irritation, or of paralysis from the cerebro-spinal to the sympathetic system, giving rise to various aberrations in nutrition and secretion. *This opinion we have held for several years, teaching to our classes that there* EXISTED BETWEEN THE CEREBRO-SPINAL *and the* GANGLIONIC *system of nerves, a relation* SIMILAR *to that between the sensitive and motor branches of the cerebro-spinal, and which Marshall Hall terms* EXCITO-MOTORY; WHILE WE HAVE TERMED THAT BETWEEN THE CEREBRO-SPINAL AND SYMPATHETIC *systems* EXCITO-SECRETORY.

"As we have before indicated in this report, we do not feel authorized to lay full claim to the above theory without farther investigation of the subject; but with all due courtesy to that highly distinguished gentleman, we can say that we feel assured that these views are not original with M. Bernard, unless he entertained them previous to June, 1850. There may have been other similar observations; but until the publication of M. Bernard's, we had not noticed them elsewhere than in our paper on dentition."

You will perceive that in the above memoir, I have introduced enough from the first record to constitute a pretty complete *resumè* of my original announcement and process of induction. But being apprehensive that the doctrine of a *new function* so clearly and publicly defined, would suggest its appropriate NAME to some one, before I was prepared to take up the subject again, I, on this occasion, condensed into a short paragraph, as you will see, near the end of the paper, a *comprehensive* RE-STATEMENT *of my doctrine*, and placing it in juxta-position with your own distinguished name, and also, in contra-distinction to your own great, *analogous* discovery of the *Excito-*MOTORY system, after *emphasizing* the word "similar," to indicate that I did *not* consider them "*identical*," I applied to it, the expressive designation (now used by yourself,) of EXCITO-SECRETORY—*a word, never before that moment, (as I believe and have above stated,) written by any other person in any language*, except by me, in my private notes.

As an evidence of the importance attached to this brief communication by the publishing committee of the association, I call your attention to the fact that it is rendered conspicuous by not less than *four* references in the short index at the end of this volume of the Transactions. On the appearance of the volume, (vol. vi., 1853) several of the prominent scientific periodicals made special reference to my claim of priority preferred against Mons. Cle. Bernard, during their review of the Transactions.

On the printing of the sixth volume of the Transactions of the American Medical Association, for 1853, I engaged with the publishers to strike off extra copies, for distribution, of the "*Report on Typhoid Fever*," in which memoir, the principle of the Reflex Phenomena between the cerebro-spinal and ganglionic or secretory system of nerves is recognized, though not made a prominent feature of the essay. The pamphlet made up from these extra sheets was sent to yourself, as well as to your distinguished cotemporaries, Drs. W. B. Carpenter, R. B. Todd, Mr. W. Bowman, and Dr. W. Jenner; and more recently, to Dr. T. B. Peacock, of St. Thomas's Hospital.

Near the close of last year, I was solicited to become senior editor of the *Southern Medical and Surgical Journal*, and with this subject ever uppermost in my thoughts you will observe, that my first editorial work consisted in certain strictures upon a lecture on "The Effects of Dentition, in Nursing Children," delivered at Hotel Dieu, by Mons. Trousseau, of Paris, wherein I enter into a *re-statement* of my views published in June, 1850, again bringing the *two great facts of the nervous system* into emphatic contra-distinction and analogy, the *Excito-motory*, being indicated by the "*convulsive Phenomena*, while the *Excito-secretory* is instanced, by the "diarrhœa" succeeding the local irritation in the sensitive branches of the fifth pair. From this I quote the following:

"Here it will be observed that we have unmistakeable evidences of local irritation of the gums, which we know are supplied by branches of that most exquisitely sensitive of all sensitive nerves, the fifth pair; if we admit the principle of reflex action, we must recognize here a competent cause, considering the impressible character of the infant's nervous system, for the *convulsive* phenomena. On the other hand we may trace a connection between the local irritation and the *diarrhœa* succeeding it, in an *analogous* manner, taking into view the intimate connections between the fifth pair and the nervous surfaces receive their *secretory* endowments.

"We have been thus careful (I here continue,) in pointing out the manner in which we think this *local irritation may produce* the convulsive symptoms and, also, even *the increased secretion from the mucous surface of the bowels* and the *diarrhœa*, in order to give what we consider its proper amount of importance, and to direct attention to this, as the chief source of those difficulties, calling for early and continued care."*

*Southern Medical and Surgical Journal, Vol. XIII., pp. 20 and 21.

This is my latest printed record, published in this country, as you will perceive, *three months previously to your first;* but this important and extensive subject has never ceased to possess and stir my thoughts—suggested to my mind in the first instance, by an accidental and trivial circumstance, occurring years ago, in the earliest days of my pupilage, it became inwoven with the tissue of my thoughts, first, as an unpromising and tantalizing problem, it is true, but soon as a broken seal—a revealed fact; and finally, as the familiar, *self-evident truth* of reflex nervous action.

And now, dear sir, I have completed the chain of evidence which I find in my published records upon this, to me, momentous subject. While it has been acknowledged on all hands, that there is an *unity* in the truths of *nature*, it is a pleasing reflection that there is also an *universality* in the principles of *science*—nature's humble interpreter—which makes them the property of no one clime, or particular race of men, but parts of that vast and common treasury, for the benefit of all mankind. To this rapidly accumulating store, your own genius and unremitting energy have contributed more, much more, than often falls to the lot of one member, of this great commonwealth, to gather. Your name must ever be associated with the history of doctrines in the physiology of the nervous system, acknowledged and made the basis of induction in every portion of the scientific world. Observing you, admiring you, and studying you closely, can you censure me, if I have wished in some degree, to *emulate* you, and place my humble name one day, near your own, on the scroll of science. That day is now, I hope, about to arrive; you have intimated that this *Excito-secretory* function of the nervous system, which, as I think, I have herein shown has been developed and named by me in 1850 and 1853, is a principle not less extensive than the *excito-motory* function developed and named by you in 1837. You have said most truly, that it is "a vast subject requiring many laborers and many years, fully to develop that and the other sub-system." I here ask permission to express the wish, that as long and as usefully as you have already lived, you may still be spared, to add much to the *fuller* development of the *Excito-secretory* system, much more than I could ever hope alone to accomplish.

Mingled with other feelings, all of which are at this moment those of sincere kindness, is the regret that my repeated publications on this subject has never reached your eye. I feel that I am not chargeable with having omitted to give publicity to my records, as the annals of the American Medical Association will

plainly reveal. As you intend publishing shortly more in detail upon these subjects, I here earnestly and respectfully ask the honor of having my records meet due acknowledgement at your distinguished hands.

And now, respected sir, I will close this already too prolonged communication; as courtesy to you, and justice to myself, were professedly the instigating causes of its inditement, I do most sincerely hope, that in the too earnest establishment of the latter, I have not at any moment even *appeared* to have forgotten the former. I am, Sir, with feelings of great respect,

Your obedient servant,

HENRY F. CAMPBELL.

CHEMISTRY AND TOXICOLOGY.

1. *Coffee a Powerful Antidote.* By Dr. MAX LANGENSCHWARTZ.—A very few persons, and I believe but a small number of medical men, know that Coffee is one of the most important antidotes to many deadly poisons, and to a great many ordinary drugs. This remarkable fact leads to serious considerations, many patients receiving the right remedies, but not being prohibited from taking Coffee, destroy the intended effects of their medicine, became worse, and led the physician to change the right treatment into a false and perhaps unhappy one—while the simple knowledge of the above fact would have contributed to meliorate their state and to save them. But far more important is it to know that the fatal results of many accidental, spontaneous or criminal empoisonments could be stopped almost instantly by administering that simple antidote, Coffee, while the loss of time in calling a physician, &c., is often the only cause of the loss of life.

The following is a list of the principal poisons which out of a number of less dangerous, find their powerful antidote in the simple coffee, prepared in the manner I shall explain below,

1. Laudanum or opium.
2. Atropin and Belladonna.
3. Acotine and aconite.
4. Strychnine and Vomit nut, (*nux vomica.*)
5. Chelidonin, and the herb chelidonium majus.
6. Caustic lime, } and all caustics in general.
7. Potash. }
8. Phosphorus and all phosphoric preparations.

9. Solanin. (Principal basis contained in the germs and first shoots of potatoes, and very often self developed, if potatoes remain moistening in humid cellars.)
10. Aron. (Caladium, or aron seguinum.)
11. Brownstone. (Manganum.)
12. Veratrin and the white hellebore. (Veratrum album.)
13. Tansy oil, (or the infusion of tincture of tanacetum vulgare.) The tansy oil has been, and is still recommended by criminal persons, for the purpose of abortion, but it never produced abortion, but frequently kills mother and child together.
14. Borax.
15. Coloquints.
16. Poisonment and suffocation by charcoal vapor, and therefore, of course, also.
17. Pyrocarbon, (the artificial or chemical development of the same poison.)
18. The spotted hemlock. (Conium maculatum.) The Conein contained in the seed is one of the most horrible poisons I am acquainted with.
19. Iodine.
20. Lycopodium.
21. Cherry-laurel, (Laurocerasus.)
22. Poisonous Sumac, (Rhus Toxicodendron.)
23. Valeriana.
24. Ignatia, (Ignace beans.)
25. Fly Mushroom, (Agaricus Muscarius, and all kinds of poisonous mushrooms.

All the effects of those substances are almost instantly destroyed by administering what we call "tincture of raw coffee," or even by a simple decoction of raw or green coffee, a preparation costing about nothing, and which, therefore, ought to be kept ready in every house and in the poorest family. The following is the very simple way to get that tincture: Take a quarter of a pound of green coffee (common Domingo the best,) and boil it with one quart of water till it is reduced to one pint; then put the whole (berries and liquid) in a quart bottle, add one pint of strong alcohol, and shake it from time to time a little. That's all. This tincture gets stronger from day to day, and will if the bottle be well corked, keep for many years without changing. If to the pint of alcohol (about ten minutes before mixing with the coffee decoction) you add a little spirits of camphor, say two tablespoonful, you will not only double and triple the anti-poisonous quality of the tincture, but this preparation will then be an invaluable and certain antidote also to the following poisons:

36. Garden Hemlock, or Dog's Parsley, (Aethusa Cynapium) particularly deadly to full-blooded persons, and producing (by confounding it with common Parsley) almost every year, fatal poisonings in all countries.
27. Chalk.
28. Barytes.
29. Poisonous Lettuce (Lactuca Virosa.)
30. Capsicum, or Spanish pepper.
31. Animal Coal.
32. Coculus (Mensipermum Coculus.)
33. Drosera (Rotundifolia, or Sun Dew.
34. Euphorbium, or the so-called Wolf's Milk.
35. Black Hellebore.
36. Henbane (Hyoscyamus Niger.)
37. Hell Fig (Intropha Curcas,) called also the black Vomit Nut; one of the most terrible poisons.
38. Wild Rosemary (Ledum Pallustre.)
39. Moschus (Musk.)
40. Nitric Acid.
41. Muriatic Acid.
42. Phosphoric Acid.
43. Crows-foot (Ranunculus) of every kind.
44. Poisonous Snow Rose, (Rhododendron crysanthum.)
45. Garden Ruta Graveolens.
46. Sabina, (called also mother tea.)
47. Ergot, (secale cornutum.)
48. Silica.
49. Bittersweet, (Dulcamara.)
50. Common sponge. (Only the roasted one is employed as a remedy, but I saw very grave accidents to children, having taken pieces of the raw sponge into their mouths.)
51. Mice-pepper, (Staphysagria.)
52. Tobacco and the horrible Nicotine. (The patient can only be saved by our composed antidote of raw coffee, tincture and camphor.)
53. Zinc preparations of every kind.

In a general toxicology soon to be published, I shall give the antidotes to all other poisons known at present, but it may be useful to remark that, in about all cases of poisoning by metallic substances, (as for example arsenic, copper, verdigris, etc.,) the best and the surest is to employ instantly a simple pap of common soap, that is, pieces of soap stamped with water to a kind of paste. A part of this paste diluted with a larger quantity of water, will serve for soap-clysters, which in such cases must be

administered every five or ten minutes. If the jaw-bones are spasmodically closed, or the swallowing of the thick paste proves impossible, the same thin or diluted soap water must be administered through the mouth as well as it can.

The compound saving-tincture (of green coffee and camphor) is in the respective cases of poisoning, to be administered naturally and by clyster; the internal dose about ten to twelve drops in a teaspoonful of water every five minutes, and every fifteen minutes when the patient begins to recover. Larger and even very large doses may be given if the danger of life is imminent.

The ordinary cooked coffee (roasted, ground, and boiled or filtered) is in the most cases without any effect, and in some cases even dangerous. In a very few cases only, and particularly as an antidote to opium, I found it highly useful. The principal substance acting so powerfully in the green tincture, is a kind of coffee-oil developed in the raw berries, but almost entirely destroyed by roasting the berries. This oil once withdrawn by roasting, the coffee only contains its exciting principles, which are (without the counterbalance of the oil) of little use. There are few cases where, the nervous system being entirely paralyzed through strong narcotic poisons, artificial excitement is necessary; and this may be the cause that I found large doses of common (roasted and boiled) coffee to act usefully against opium, tobacco, etc.

That coffee, exercising such an astonishing power over strong poisons, must be a poison itself cannot be doubted. If we take a large quantity of boiled coffee without suffering, it is only the habit of taking it from childhood which saves us. People in Turkey take without danger quantities of opium sufficient to kill a dozen of us, because they are in the habit of using it from childhood. In Tyrol, the general habit of hunters is, to take a good piece of pure white arsenic upon their tongue; to protect them (so they say) from getting thirsty.

But a very curious fact is the following:

The celebrated Professor Liebig tells us that the chemical basis of coffee (cofein) is absolutely the same as the basis of tea (thein.) Tea should then be an antidote against the most powerful poisons the same as coffee. But not at all! Tea has no annihiliating power whatever upon them, nor has it upon any poison! It is evident therefore, that coffee must contain some particular chemical ingredients unknown to the great Chemist. Indeed, a long experience and many experiments have proved to me that coffee acts almost exclusively upon the blood, and has directly nothing to do with the nervous system; while tea, in contrary, acts al-

most exclusively upon the nerves, and has no direct relation to the blood vessels, must, of course, be an agent upon poisonous material, having the same relation; and the fact is, that about all poisons to which it is an antidote, exercise their direct action equally upon the blood. Besides, (and without speaking here more about the oily substance in coffee, substance of which there is not to be found the slightest trace in the tea plant, the coffee has an extraordinary force of vivifying, while tea has only a blunting one.

I cannot believe, therefore, that *cofein* and *thein* are one and the same substance. Chemists mostly look at the form, but physicians look at the effect; and nothing but the effect can be decisive. If nature takes the liberty to retain some secrets without leave of certain professors, we must submit. Give coffee to a person poisoned by laudanum, and you will save the patient. Administer tea, and you loose your patient. Coffee is a truly invaluable remedy to re-establish circulation and life in drowned, frozen, suffocated and starving persons, while tea is of no use at all. Hundreds of experiments show that tea, only acting upon the nerves, acts as a resistance, while coffee, removing and revifying the blood, causes re-action. Unfortunately, both resistance and re-action are commonly confounded with each other, even by many physicians, and this is a principal cause of their being unsuccessful in thousands of cases of poisoning.

If our dear colleagues would study a little the antidotes in general, they would, in prescribing certain poisonous ingredients in lawful doses, at least interdict coffee. If, for example, a patient swallows at seven o'clock a spoonfnl of Iodine preparation, and then, takes ten minutes after, only one spoonful of good coffee, he will at half-past seven have no more Iodine in force in his system than he has whalebone force in his hairs. But certainly the matter I speak of must be coffee, and not that innocent and precious genuine coffee article of certain New York merchants, consisting one half in roasted carrots, another half in succory, and (excuse that new arithmetic) a third half in "smart merchant's tricks." I would prefer to swallow a certain kind of genuine New York tea colored with true Sohwein-further-green and containing the most genuine arsenic. If Mr. Liebig will come and live in New York, I shall not quarrel with him at least about the moral identity of certain *Cofein* and *Thein*.

Meantime the public may, in case of fatal accidents, profit by the above remarks.—[*American Med. Gaz. and Jour. of Health.*

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2. *Strychnia: its Uses and Abuses.*—"This powerful alkali

has figured very prominently of late before the public; and has, in certain instances, been handled, medically, in a manner somewhat remarkably. It is certainly not from any lack of caution as to its use by writers upon Pharmacy and Therapeutics that its powers have been at times very strikingly and dangerously manifested; but is rather owing to its reckless employment, or to an over zeal in eliciting its effects, that accidents under medical management have happened. Those in the habit of prescribing it, if well instructed, know that it is second only to prussic acid in energy, when given in sufficient quantity to affect the system as a poison. A girl, 13 years old, died in about one hour from taking, by mistake, three-fourths of a grain divided into three pills; and it has ever been asserted that merely inhaling a little of it has proved fatal. Moreover, administered remedially, it sometimes has had an evidently cumulative action, and its effects are very likely to break out suddenly and uncontrollably, unless the greatest care is taken to give too large doses, continuously. Yet there are instances where, from having long given it ineffectually, the practitioner has become impatient and added, very slightly it may be, to the usual dose, with the result of throwing his patient into strong convulsions. At other times the increase of the dose has even been more rash. Certainly this is an *abuse* of strychnia.

"We have lately heard of employing strychnia in some cases of *insanity*. We do not deny that there may be instances where it is demanded—as perhaps in certain concomitant paralytic states; but we are not cognizant of any special action that is predicted of this medicine likely to benefit the mental aberration. In a case of furious mania recently for a short time under our observation, we learned that *strychnia* had been administered on the outbreak of the affection. We are aware that it has been recommended in certain cases of maniacal aberration—but, as we suppose, in such as exhibited the moping melancholy form, and in hypochondrical states. We fail to see the indication for its employment in violent, active mania, in young vigorous persons. If we mistake not, there have lately been reports of similar treatment in analogous cases; if our distrust be only *ignorance*, we beg to be enlightened upon the point. Unless we are thus informed, we put this down as another abuse of strychnia.

"It is needless to refer to the frightful and cold-blooded murders, the detailed circumstances of which have made communities tremble. In these cases, the abuse of strychnia has had its *uses*, in that it has given to the world the elaborate chemical reports and investigations required by the legal necessities of the

case. These will stand as invaluable evidence, and will be always looked upon as mines of information. In connection with this part of our subject, we consider it an *abuse* of strychnia, as of *any* subtle and potent poison, to have it so easily procured. Druggists should not be allowed to vend this medicine, any more than arsenic, opium, prussic acid, &c., to all applicants indiscriminately. Might not much of this abuse be done away by refusing the sale to all who do not present a physician's prescription or order? We are aware that much has been written and said upon this point, and also that nothing, of consequence, has been done. Often these deadly articles are as heedlessly sold as the most simple remedies. The small pecuniary gain to the apothecary, levies a large debt of responsibility against him.

"The legitimate *uses* of strychnia are well known. A powerful excitant of the nervous system, without any specific action on the brain, it has been long acknowledged to be a very valuable remedy in certain paralytic conditions. Combined in minute doses with purgatives, it hastens and increases their action; and it has thus been advantageously employed in some cases of amenorrhœa, or of suspended menstruation. We can testify to good service done by it in this way. As a tonic, *brucia*, the other component alkaloid of nux vomica, has been found perhaps more useful than strychnia. The latter is often prescribed in dyspeptic states, such as are accompanied by pyrosis and gastrodynia. Testimony is strongly favorable to its curative effects in spasmodic asthma. Externally, its employment for amaurotic troubles has been extensive.

"To recur once more to the abuses of strychnia, or, which amounts to the same thing, of the nux vomica, we cannot refrain from alluding to one which, in view of the strength and unmanageable nature of the agent, should be represented to the two credulous public in the way of a caution. There are those who by the necessity of their position and avocations, cannot have that knowledge of it, and familiarity with this and other giants of the Materia Medica, which fit them for advising or regulating their use. Still very many, in every community, are willing to take from such unskilled persons, compounds containing unknown amounts of strychnia, &c., &c. Thus we have *soidisant* or retired clergymen advertising that they will furnish a prescription for a preparatiou containing the active principle of St. Ignatius's bean, and the direction for using the same. All such tamperers with human strength and life are accountable to a higher tribunal than any earthly one, and those who aid and abet them must bear them company thither. It being quite sure that the adop-

tion of these quack remedies by the people, only brings the honest physician more patients, we shall not be accused of covetousness in protesting against them. We do not aspire to cœrce people, even by argument and the exposition of the bold and unwarrantable assumption that seeks to medicate—or rather to poison them—they are free agents, but certainly in no other affairs do they act so inadvisedly or expose precious interest so recklessy as in the care (as they understand it) of their health.

"The proper use of strichnia, as of all medicinal agents, are only thoroughly known by the educated physician. Why does any one desire—or dare—having the manifest peril in view which its improper employment implies—to intrust its administration to the unfamiliar—the adventurer—or still worse, if possible, to their own judgment?

"And we commend to legislative consideration the dangers constantly attendant upon the unrestricted sale of medicinal articles, a fractional part of which sometimes takes life more quickly than the knife or the bullet. The facility of such materials, arms the unprofessional murderer quite as surely, if less covertly, than it does a PALMER."—*Boston Medical and Surgical Journal.*

PRACTICAL MEDICINE AND PATHOLOGY.

1. *Diabetes and Saccharine Conditions of the Urine.*—Dr. A. B. GARROD concludes the Gulstonia lectures before the Royal College of Physicians which, this year, were delivered by him with the following summary of the effects of treatment:

"To sum up in a few words my opinion of the effects of treatment in diabetes, I may remark, that I consider attention to *diet* of the utmost importance; and without this I believe that other means are almost, if not entirely useless. In certain stages of the disease, the diet is advantageous in proportion to its freedom from any amylaceous or saccharine matters; the nearer it can be obtained free from these, the greater is the benefit likely to accrue to the patient. The nitrogenized matters should not be excessive in quantity, at the same time that due allowance must be made for the inability of the patient to assimilate amylaceous principles. In consequence of the appetite being generally above the healthy standard, and also to prevent the disgust which a rich animal diet is apt to produce, it is most desirable to introduce certain non-nutritive materials into the diet, which give

bulk to the aliment, satisfy the hunger, and, at the same time, make the azotized and fatty matters more palatable and acceptable to the patient. To effect this, I know of nothing equal to the bran bread I have shown you to-day. In addition to the bran or gluten bread, I consider that certain green vegetables, as water-cress, greens, and lettuces, may be advantageously allowed in small quantities; as a diet quite free from vegetables, if continued for any length of time, will inevitably lead to the production of scorbutic symptoms.

The liquid portion of the diet should also be kept as low as possible; and diabetic patients often derive much comfort from holding small pieces of ice in their months, instead of drinking copious draughts of water. The washing out of the mouth, also, with cold water sometimes effects the same object. Alcoholic liquors should be used sparingly; perhaps the best is a little good bitter ale, or small quantities of pale brandy freely diluted.

With regard to the administration of drugs, I believe that in many cases but little advantage is derived from them; if, however, the nervous system is irritable, small quantities of opium may be useful; if there is any anæmia, iron preparations, as the metallic iron in the form of the *fer reduit*, or the ammonio-citrate or phosphate of iron should be administered; and if the skin remains harsh, ammonia salts in small doses, combined or not with other remedies, as the warm bath. If the emaciation be great, or phthisis threaten, cod liver oil may likewise be used; for, although I have shown you that these drugs, when given in large doses, and for a limited period only, produce no sensible diminution of the saccharine secretion, yet we may regard it as a fact, that everything which leads to an improvement in the health, by removing any other abnormal state that may be present, tends, in the long run, to ameliorate the diabetic condition; hence great advantage is derived from the change of air and scenery, relaxation from business, and other such hygienic means, especially the avoiding of cold east winds, the use of the flesh-brush, and warm clothing. I have said that in certain cases I believed that weak alkaline drinks, as the Vichy waters, or alkalies given n other forms, are occasionally of advantage, especially if the functions of the liver be disturbed, or any amount of irritation of the stomach be present."—*British Med. Journ.*, *May* 16, 1857.—*Am. Jour. Med. Sciences*, *July* 1857.

PART III.

EDITORIAL AND MISCELLANEOUS.

☞ Subscribers to the Journal, who have paid in advance and who desire the premium of The Geology of Tennessee, can have it forwarded to them by remitting to us *seven cents* in postage stamps with which to prepay it.

☞ The warm weather and active professional engagements have prevented us from preparing our usual quantity of editorials.

☞To our professional brethren, who may at any time, be on a visit to our city of hills, we extend a cordial invitation to call at the editor's office—corner of Gay and Asylum streets, where they will find all the medical Journals published in the United States, as well as a few from Europe, with which to beguile a leisure hour. Also they can have the pleasure of examining a large and well arranged cabinet of minerals and ores, as well as taking a glance at the latest medical works.

Singular case of Triplets.—Dr. A. S. McGregor, of Gasconade Ferry, Mo., in a letter to the editor of this Journal, says; On the 10th of August, 1856, Mrs. G——, of this county, was delivered of a still-born child. Twenty-one days after this, she gave birth of a second; and in the same length of time there-

after, to a third. The last two lived about six hours each. The mother is doing well and is again pregnant.—*St, Louis Med. and Surg. Journal.*

On the Productions of the Lacteal Secretion by Electricity. By Dr. A. Auber, of Macon. (L'Union Médicale,)—The observation of Dr. Auber is exceedingly interesting. He was applying the voltafaradic apparatus of Duchenne on the right breast of a woman who had been delivered seven months, who had not suckled. The object of applying it was to remove an anæsthesia of the skin. After a third application, the patient complained of being as she was after her milk fever, and obliged to cover her breasts, both of which moistened her dress. On the fifth application, some milk, of which a spoonful was collected, was examined by microscope. It seemed quite similar to that of a woman newly delivered.

Dr. Auber refers to a case in which the lacteal secretion was in like manner produced by M. Becquerel. He anticipates the possibility of thus making any woman fit to suckle.—*Virginia Med. and Surg. Journal.*

Sir Charles Locock.—Her Majesty Queen Victoria has been graciously pleased to bestow the honors of knighthood on her chief accoucheur, Dr. Locock. Mr. Punch suggests, however, that this distinguished gentleman deserved, after his arduous duties, to have been elevated to the peerage under the title of Lord Deliver us!

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PART I.

ORIGINAL MEMOIRS AND CASES.

(From the Nashville Journal of Medicine and Surgery.)

A Treatise on Obstetric Surgery. By JOHN M. WATSON, M.D., Prof. of Obstetrics and Diseases of Women and Children in the Medical Department of the University of Nashville. Read before the Tennessee Medical Society.

The duty which had been previously assigned to me by this Society, of writing a history of the Obstetric Surgery of our State, was, at my request, changed at our last session to that of writing a treatise, in lieu thereof, on Obstetric Surgery. Having found the former impracticable on account of the great difficulty of procuring the necessary information from all parts of this State, I have undertaken the latter with far more confidence. The subject is one of my own selection; it is one of great practical importance, and I shall discuss it freely.

All may learn from the general history of midwifery, that it was long in the hands of females. It accomplished but little while practiced by them; it did not probably perform as much then in a thousand years, as it does now, since it has changed

hands, sometimes in a single day. Hence, obstetric surgery was long in acquiring a distinct form, name and character.

A slight departure occasionally from the common surgery of the times and country constitutes all that is known of its early state.

As the science of obstetricy improved *pari passu*, its surgery became more distinct; which, now in its distinctive character merits the name of OBSTETRIC SURGERY. This assuredly speaks well for this science, declaring that it has not only its improved therapeutic means, but also its great chirurgical resources, forming of themselves a very interesting and commanding branch of surgery. This department of surgery, as much as it has been cultivated and improved of late years, has not yet attained its greatest practical advantages. It yet requires special culture that it may attain to a state corresponding with the improvments now making in other mechanics.

Obstetric surgery has suffered very much from two extremes, by which its advancement has been greatly retarded. For instance, in obstetric history Dr. Gifford and Dr. William Hunter stand practically opposed to each other. They present in their practice to reprehensible extremes. Gifford was too fond of his extractor, and Hunter had too much confidence in parturient powers. Hunter's error in this instance is only equalled by his neglect of the lancet in the treatment of the puerperal fever of his day. I hope it will not be deemed wrong for me thus to refer to the mischievous errors of this man, great and useful as he was in his day. However great our gratitude may be for the positive good which he may have done, we should mark his errors of negation, and avoid them. Both the practical and negative errors of our benefactors themselves should be carefully noted and fully exposed, that others may in future avoid them. We should under all circumstances have more regard for the safety of the living than for the fame of the dead, whenever it may interfere with the proper use of available means for their relief. Besides, errors associated with great names become practically stronger with many, than truths themselves. And to say the least, Dr. Hunter in his day, missed the only safe and proper

way in his obstetric surgery—the via media. The abuse of the use of instruments by others does not justify his great censure of the employment of them. Though the too frequent, unnecessary and hurtful use of instruments sustained for the time, his too great confidence in the powers of parturition before the people; that confidence was not so practically hurtful on the part of that great man as it might be when entertained and practically misapplied by some of our modern practitioners. Hunter doubtless made a distinction between theory and practice, which, it is to be feared, many do not. The profession, as well as the people, have been strangely slow to discriminate between the abuse of means when improperly employed, and their virtues when used according to their indications.

Dr. D. D. Davis in his great and instructive work, says that obstetric surgery had been greatly and culpably neglected for fifty years in England before he wrote. His words are: "Not one practitioner in fifty during the last fifty years has possessed a competent elementary knowledge of the use of obstetric instruments upon first engaging in the practice of his profession." Will this remark apply to the practitioners of our country at this time or not? Why do so many abjure the use of obstetric instruments, and employ ergot often as a hurtful substitute for them? Why do we have more cases of craniotomy than deliveries by the forceps? Why do we hear of so many cases of vesico and recto-vaginal fistulas, from a neglect of the proper and timely use of instruments? Why is there yet so great a prejudice against the employment of instruments entertained by the people generally? And so great a repugnance to their use by even physicians otherwise well informed? Appropriate answers to all these significant questions would prove most exclusively that practitioners of medicine, with few exceptions indeed, have not prepared themselves for the skillful use of obstetric instruments, and consequently must frequently resort to improper and hurtful substitutes. The very fact, that some of these are men "in authority" in their villages and neighborhoods, causes them to become improper exemplars to their juniors, in their reprehensible neglect of obstetric surgery. Another fact

that a man may practice midwifery for years, by means of good luck, good cases, good friends, and safe corners, and evade responsibilities of this kind, furnishes a pretext for the neglect of acquiring this useful, and often indispensable obstetric knowledge —all of which is further strengthened—happily not confirmed— by popular prejudice, engendered by the ill-timed and unskillful use of instruments when employed.

Negative errors unknown and unappreciated as they are by the people, are less likely to injure a practitioner, than even a positive and proper use of instruments when such cases are attended with collateral ills. Another great evil is the habit of practitioners, unskillful in the use of instruments, waiting too long, and employing too many drugs, before they have some competent one called in. The best possible use of instruments may then be made, but it may be too late; the operation fails not on account of being improperly performed, but being too long delayed. The hands of the novice, is then strengthened by the doings of the knowing and skillful operator. The people never appreciate the dangers of delay at such times. Even the nurses of the City of Philadelphia, were greatly surprised as well as mortified when Dr. Dewees presented them with living children after the employment of obstetric instruments, supposing that their heads had been perforated as was the custom among many other practitioners. And in our country, instrumental delivery is generally associated with the certain death of the child, and often with that of the mother herself. When they are assured that the life of the child, as well as that of the mother, may be saved by the employment of the forceps, they seem very incredulous, and when demonstrated to them they express great astonishment. They had seen or heard of perforations of the cranium, and the destruction of fœtal life in that way, but not of any other operation by which the life of the child as well as of the mother might be saved.

All the derangements of the great function of parturition have their special indications; and unless the practitioner has a correct knowledge of them and the best means by which they may be fulfilled, he will confound them.

A ready preception of the signs for the *indispensable* use of instruments is of great practical importance; without which no one is competent to practice obstetric surgery. Such indications do become manifest to the well informed, and show most conclusively that nothing but a skillful use of instruments will save the life of the child or mother, or the lives of both as the case may be. While on the other hand, a want of obstetric knowledge, delay, ergot, prejudices, and want of practical skill in the use of instruments, too often combine in thus producing both negatively and positively the death of both mother and child!

Ergot has doubtless retarded the progress of obstetric surgery. It has been given both by physicians and midwives, when the hand, the forceps or perforator should have been employed. It is occasionally used as a substitute for all the different kinds of obstetric surgery. And often takes life, which might have been saved by a skillful employment of instruments. The fault with us is not too great a fondness for the use of obstetric instruments, but a neglect thereof, and the employment of ergot instead of the forceps.

The very fact that the dark way of ergot may be pursued in practical midwifery, to the exclusion of instruments for many years, is well calculated to produce a neglect of this important and indispensable branch of surgery. Were the fatal results attending the mal-administration of ergot as obvious to the popular eye, especially in regard to children, as those of instruments, many who now rely too much on ergot, would study the indications for instruments, and the best modes of employing them. The unseen work of death wrought on the fœtus, may after birth be suspected from certain signs, by the physician, but there are no external lesions, wounds and the like to show to common observers that the ergot killed the child.

"Some men, like pictures, are fitter for a corner than for a full light." Even the skillful obstetrician runs great risk at times of losing his reputation as an operator. The timid practitioner, pleading popular excuses for not employing instruments occasionally allows his patient to remain undelivered until the maternal parts have become too irritable, too much swollen, and

inflamed to admit of safe delivery either by the hand, forceps, or perforator. The best skill in the use of the most appropriate instruments may fail in such cases. The skillful practitioner will then be blamed for not operating, or for bad consequences if he operate; while the real author of these evils escapes popular censure by means of the hidden ergotism which had destroyed the child, or the seeming prudence which protracted the delay which proved indirectly fatal to the mother.

The alternate contractions and relaxations of the uterus may, in the light of obstetric physiology, be traced to Infinite Wisdom itself. It affords, in ways which I need not now stop to speak of, safety to both mother and child. This admirable physiology is grossly perverted by ergotism!

The regularly intermitting uterine contractions and relaxations enables the fœtus to maintain intra-uterine life during the process of parturition, and also the mother to safely endure her pains. While the constant unintermitting contractions of the uterus produced by ergot administered in obstetric blindness may destroy both mother and child, especially the latter. It is now fortunately ascertained that the child may perish from ergotism, even if the umbilical cord escape compression, by arresting the course of the maternal blood in the utero-placental vessels; for a permanent contraction of the uterus is incompatible with the circulation of maternal blood through these vessels—carrying to the fœtus, as they do, its vital supply of oxygen, etc. It is true that the uterus contracts in natural labor; but its contractions but seldom exceed 30 or 40 seconds, and are followed by intervals of relaxation, varying according to the stages of labor from 1 to 20 minutes. These physiological intervals of contraction, so necessary for the preservation of the child, the strength of the mother, and the action of the uterus, are counteracted often by the administration of ergot, especially when given in large doses, or when the uterus is irritable and easily excited by it. The death of the fœtus may be caused in this way independent of a compression of the cord, or in conjunction with it.

Under the heading Forceps, I shall again refer to this subject.

I will now propose the following obstetric truisms:

1. That parturition like all other functions is liable to great derangements.

2. That these derangements may end in the death of the mother or child, or of both.

3. That the life of the mother or child, or of both as the case may be, is often saved by instruments, at times, when no other means would have been available.

4. That the abuse of obstetric instruments affords no rational argument against their proper employment; but on the contrary furnishes a motive for acquiring a thorough practical knowledge of their use.

5. That if we abjure obstetric surgery, including as it does, those operations performed by the hand without instruments, we had as well give up our obstetric practice to midwives.

6. And lastly, that no drug, or drugs can safely supersede the use of obstetric instruments.

I will now be content with these incontrovertible facts for a foundation.

Interesting and important as they are, I shall not treat of those obstetric operations, which are performed exclusively by the hand, but will treat of those performed with the following instruments:

1. THE AIR TRACTOR. 2. THE FORCEPS. 3. THE PERFORATOR. 4. THE CROTCHET. As other instruments are merely modifications of these, I shall speak of them as such; for all of them as such, numerous as they are, have a prototype in one of these.

THE AIR TRACTOR.

This instrument is not generally known to the profession, I will give both its history and description: Tractors or suckers were described and recommended by Paré Hildanus, and others for the purpose of removing depressions in the cranium; but it remained for Dr. Neil Arnott of London, 20 or 30 years ago, to recommend the application of this mechanical power to the fœtal head during labor. I will cite his own words. He says: "The forceps to be well and safely used, require address, which even

the naturally dexterous man cannot possess without a certain degree of combined practical familiarity with it; and, except in large towns, a man must be unfortunate who often requires it; hence the really small number of persons who use it well. A tractor three inches in diameter would act upon any body, to lift or draw it, with a force of about 100 lbs., much more, therefore, than is even required or allowable in obstetric practice. In lifting a stone, the tractor does not act as if it were glued or nailed to the stone, but merely bears or takes off the atmospheric pressure from one part, and allows the pressure on the opposite side, not then counterbalanced to push the stone in the direction of the tractor; so when placed upon the child's head, it would not pull by the skin in the manner of a very strong adhesive plaster there, as uninformed persons would be apt to suppose; but by taking off a certain amount of atmospheric pressure from the part of the head on which it rested, it would allow the pressure on the other side or behind to urge the head forward on its way. Of course the pressure in such a case would not operate on the head directly, but through the intervening parietes and contents of the abdomen.

It would be preferable to have gentle and diffused action of the tractor over a large space rather than an intense action on a small space, and therefore a tractor for the purpose now contemplated should not be very small, and should have a little air underneath it in a slight depression or cavity at its centre. The forceps must be more effective than the tractor, for rectifying mal-position of the head, and diminishing its transverse diameter, but the tractor will answer both these purposes in a greater degree than might at first be expected."

Dr. Simpson succeeded in delivering a woman while the head was high up in the pelvic cavity, by means of a metallic vaginal speculum, with a suitable piston and leather appendage at its trumpet-shaped extremity. By means of this instrument he obtained such a hold on the head as to draw upon it and extract it. It required re-application only once or twice.

Dr. Simpson was thus the first to use this power for drawing upon the fœtus in utero, though it had been previously suggested

by Dr. Arnott as just stated. Dr. Simpson has tried a great variety of forms of the air tractor. The form recommended by him consists of the following parts: A short brass syringe 2 inches long, a double valved piston, like a breast pump, an inner cup at the lower extremity one inch in depth, and $1\frac{1}{2}$ inches broad at the edge, an outer cup overlapping the inner cup 6 or 8 lines of vulcanized caoutchouc; a covering for the mouth of the inner cup of open wire gauze, and a piece of thin sponge over this, so that the parts applied to the child's head are sponge and caoutchouc. The wire and sponge are to prevent the scalp from being drawn up like the skin in a cupping glass. No doubt but what this is a good form of Air tractor, but I think it will admit of still greater improvements—probably as great as did the forceps in their primary form. Besides, Dr. Simpson has applied this instrument successfully in breech presentations, and thinks that the head might be rotated by it.

The amount of traction by the forceps but seldom exceeds 25 lbs. or 30 lbs. though it may rise to 40 or 50 lbs. in a few instances. This amount of traction may be made with the air tractor; and even more if needful.

The air tractor will never entirely supercede the forceps; but in such cases as will admit of its use, it will ever possess the following advantages over it. 1. It is constructed of soft materials—the other of steel. 2. It will not take up as much space as the forceps. 3. It will operate effectually on a free surface, which the forceps cannot. 4. It can be safely employed with less experience and skill than the forceps. The indications for the use of this instrument are pretty much the same as those mentioned in obstetric works for the forceps. It may be applied when the head is high or low; and even for the purpose of rotating it, according to Dr. Simpson.

THE VECTIS, LEVER OR TRACTOR.

This instrument is mentioned in obstetric works by all these names. It is a kind of forceps—half a forceps at least. It is but half an instrument at best, wanting a counterpart. Dr. Denman's great skill in the use of obstetric instruments enabled

him to employ this instrument almost to the exclusion of the forceps in his practice. He even supposed in his day, that the forceps of the Chamberlens was a simple vectis! But this erroneous opinion has since been most satisfactorily refuted. Several forceps, in their different stages of improvement, were found in the old mansion of the Chamberlens, secreted in a closet, and along with them a vectis; all of which were deposited in the archives or cabinet of the Medico-Chirurgical Society of London, about 1818, by H. H. Causandine. Though the vectis was found among these original instruments, we are not authorized to suppose that the Chamberlens employed it in preference to the forceps. And had this discovery been made before Dr. Denman wrote his book he would not have advanced the opinion he did, about the use of the vectis by the Chamberlens, supposing they had not become acquainted with the forceps. It is known that their instrument consisted of two separate and distinct counterparts similar to those of modern forceps.

The vectis, like all other available instruments, doubtless has its indications, and when skillfully fulfilled, subserve important ends; but the indications for its use are few, and not very decided, though at times sufficiently so probably to justify a preference for it over the forceps. 1. When we wish simply to correct the position of the head at the superior strait. 2. When only a little traction is necessary to effect delivery. 3. When the practitioner is more skilled in the use of the vectis than the forceps. This instrument may be applied over the occiput, when the head is retained at the upper part of the pelvis; but when low down over the chin. This instrument may be used with some power as a lever of the second class very cautiously, but never as a lever of the first class, as runs the directions for its employment in the books. It would be wrong to employ it after a cessation of the pains; there should always be some contractions, and such as would expel the fœtus with a little additional force.

THE FORCEPS.

This is the most available and valuable of all the obstetric instruments. By its skillful and timely use the lives of both

mother and child may be preserved when they would otherwise perish. This instrument commands the respect of the whole medical world. It is an instrument of *relief* both to parent and offspring and not—like some others—of death!

We have just seen that it was invented by the Chamberlens of London; but, like all other instruments, it has undergone many modifications, some of which may justly be regarded as great improvements. I mean those of Levret, Haighton, and Smellie. We are greatly indebted to these three gentlemen for their improvements, and regard all others as mere matters of personal taste or fancy, with the exception of a species of craniotomy forceps, crotchet forceps, and Davis' Osteotomist. A pair of obstetric forceps should combine the following qualities: Good length—a French lock—a proper curvature, giving such a concavity to the internal surface of the blades, as will adapt them to the fœtal head, and another curvature upward and forwards, corresponding with the bent axis of the maternal pelvis—proper fenestra and good handles. The entire length should be 12 or 13 inches. Blades 6 or 7. Shanks $1\frac{3}{8}$. Handle, including lock, $4\frac{1}{2}$ inches. Fenestra $1\frac{1}{2}$ inch wide. Entire weight 13 or 14 ozs. Without a fenestra $1\frac{1}{2}$ inch in width it will not include the parietal bones, by means of which we scarcely diminish the pelvic span at all in its relation to the transverse diameter of the fœtal head. Hence, the open fenestra admits of an adaptation in that respect of great practical importance. And without the anterior curvature of the blades, whereby they adapt themselves to the peculiar axis of the pelvis, the instrument could not be applied while the head was at the superior strait; nor does it interfere with its application when the head is low down, though not so necessary in cases of that kind.

With an instrument of this kind much good may be done in the practice of midwifery. It has relieved us from the opprobrium of the old midwives: That "where a man comes one or both must necessarily die!"

In those days when such sayings were common in regard to male pratitioners, it was first midwives, then the doctor and then the perforator; and may we not fear that even in modern times,

in some instances, it is first midwife, then ergot, then the doctor and a dead child. Unfortunately some practitioners yet, for the want of suitable instrument, want of obstetric knowledge, want of tact, and want of conscience, suppose that in difficult labor they have nothing to do but to give ergot, and if that fails, employ the perforator, or pocket knife!

Ergot has done no little mischief in this way; it has surreptitiously taken the place of consultation and the forceps. It is so much more agreable for the acting physician to give, at a venture, a dose of ergot, than to run the risk of exposing his ignorance or want of skill in the use of the forceps; or to be superseded by another who may be skillful in its employment.—Ergot in such hands belongs literally to the deadly category of crotchets, books, and knives. It is a powerful article; it takes both a perforator and crotchet to do its work of death. One of these kills, and the other extracts, but ergot both kills and expels!!

I have said that ergot is a powerful article; I will now say for the relief of minds, that it is also a valuable article.. It has its indications, and when given strictly according to them does great good, but when these are violated, great harm. Its great liabilities to abuse, almost counterbalance, in the amount of evil, its capabilities of doing good—like some other articles, its attendant evils would make us willing to forego all its advantages were there not a remedy for all this. *Obstetric knowledge* is the only corrective.

Yes, I repeat, ergot is a valuable drug, and has many important obstetric indications, which it fulfils often in the preservation of both mother and child; and in some instances does that which nothing but the vectis or forceps could accomplish.—But when given improperly it may prove as much a means of death to the child as the *perce crane* of Mesnard or the perforatos af Smellie; for a child may do almost as well with the steel of the perforator in its head as with the ligatures of ergotism around the utero-placental vessels. The chief difference would be in the mode of its death. By the former it would come forth, mutilated and brainless! by the latter asphyxed and pulseless!

I must insist that the forceps has indications which ergot nor any other instrument can safely fulfil. For instance, it is a very common practice to give ergot to primiparous women under the following circumstances—The second stage of labor becomes embarrassed by a rigidity of the perinæum, or coccygeal joint, or by both; and although the pains may be good, the head does not advance; and regardless of this state of things, ergot is administered. One of three things may in all probability occur---the uterus may rupture itself upon its contents—the perinæum may be ruptured—the child may die of ergotism. Each or all of these evils may be obviated by proper relaxing remedies, or the use of the forceps.

I will give briefly two cases well calculated to elucidate the remarks just made. In the early practice of the writer, before he had ever given a dose of ergot, he was in attendance upon a lady with her first child, about 35 years of age. She passed through the first stage of labor very well, but the unyielding state of the perinæum and coccyx arrested the head in the second stage. Proper measures were employed without relief. The pains grew milder and milder; and seeing that she would require instrumental assistance, a messenger was dispatched in haste four or five miles for instruments and a consulting physician. The doctor brought his case of obstetric instruments, and also a quantity of ergot. In consultation, he said if I had no objection he would give the ergot; being young and inexperienced I consented. The drug was given, the pains revived, and after a short time a *dead* fœtus was expelled.

Only a few weeks past the writer had a similar case. A primiparous lady about 34 years of age, in labor with her first child, was seen by him in the first stage of labor. The first stage was tedious, and the second pretty good up to the time of the head's engaging at the perinæum. This was rigid as well as the coccygeal joint, and although the pains were good for several hours, the head did not advance. The uterine contractions began to decline; friends became impatient; and just such a state of things as justify the administration of ergot prevailed at the time; and many practitioners would have given it, and would

have been well sustained by all present had the child been born dead, in their anxiety about the fate of the mother. Believing that if I gave ergot, before the uterus could overcome the rigidity of the perinæum and coccyx, the fœtus would die of its effects, I determined to deliver with the forceps. Ergot and the forceps had both been sent for, as soon as labor became embarrassed. According to my judgment and determination I applied the forceps, and in ten or fifteen minutes traction I delivered her of a large, living, healthy child. Both mother and child did well. I feel very confident had I given ergot, the child would have been destroyed by it!

The results of these two cases, and I could multiply them, show the propriety of employing the forceps at such times in preference to ergot.

It will be remembered that I am not treating of the indications of ergot; the subject is too great to be discussed here. I am only trying to show that it cannot fulfill the indications for the use of the forceps, in such cases as I have just given; and others in which it is sometimes given, Nor can it safely take the place of the forceps in cases of the following kinds, though frequently administered in such. In mal-positions of the head —in cases of irregular contraction of the uterus—in convulsions —in rapidly exhausting hemorrhage during labor—in exhaustion attending labor. The forceps should be employed in such cases, instead of administering the *convenient drug.*

It is a fact worthy of remark, that the best informed obstetricians—those who are acknowledged by all to be so—are the most cautious in administering this fatal bane! and give it less frequently than those of less reading and experience. Besides, they rely more on the use of the forceps than such practitioners do.

Very few physicians, according to the writer's observation, pay sufficient attention to obstetric surgery; they do not study the subject as a specialty; nor regard it in that light as they should; for general surgery may most commonly be committed safely to the hands of the surgeons of the city, village or neighborhood; but cases of obstetric surgery demand prompt attention,

and except in cities cannot be readily transferred to other hands.

The forceps should be carefully studied by all who intend to practice this branch of medicine, Its different parts, its adjustment, its curves, and their adaptations, its application, mode of employment, its indications, its difficulties, its abuses; all of which constitute a complex, but a rational and demonstrable subject. Very few pursue this complexity through all of its parts. Content with knowing that there is such an instrument as the forceps, and that women are sometimes delivered by it; scarcely knowing one blade from another, how to introduce them or how to manage them after their introduction. Ignorant of both its indications and use, they condemn it and substitute ergot for its employment; or the perforator—with but little difference of results. Even some of our well informed physicians seem to ignore the use of obstetric instruments; having practically neglected this branch of their profession so long, they allow patients to remain undelivered too long, from their personal aversions to the use of instruments, and their professional pride not allowing any other to be called in, who might deliver with them.

Such cases record themselves—if not in the annals of midwifery—in personal lesions, easily recognized afterwards. All of which might have been prevented by the timely and skillful use of the forceps. But the prejudice against the employment of obstetric instruments is so great that the practitioner who neglects them and substitutes ergot for their use, is not as apt to suffer in public estimation as he is who employs them even safely; for it is so easy and available to say that their use was unnecessary—that ergot or a little time would have done better. In this way they would wait on convulsions! Wait on hemorrhage! Wait on exhaustion! Wait on impaction! and try the effects of ergot. The temptation to give this drug at such times is very great; for the writer recollects that a few years since, he agreed in consultation with a very intelligent physician to try the use of ergot in a case of convulsions, after a very free bleeding. It did no good nor appreciable harm. But in consequence of the convulsions returning he delivered the patient with the forceps

safely, and fortunately of a living child. She recovered and the child did well. He is free to confess that he may at other times have agreed, in consultation, to the administration of this drug when it was improper; and when its effects may have been injurious to both mother and child. He is also free to acknowledge that the experience of every year's practice constrains him to be more cautious in the employment of this article. He still continues to both recommend and give it, but only according to its indications, when it is not expected to injure either the mother or child.

It will not be expected in this treatise that I should detail all the indications for the forceps, nor the directions for their employment in all cases to which they are applicable. This was not my design, I feel bound to treat of the subject only in a general way as I have done. Nothing more could have been desired or expected by the Society. Were I writing a treatise on practical obstetric surgery I would feel bound to set forth in order all its details.

It is particularly worthy of note that the French have more forceps cases than the English, and the English more craniotomy cases than the French. Thus in 16,414 English cases only 24 forceps cases occurred. Again, in 10,387 English cases 14 cases only. And in 22,213 French cases 174 forceps cases. Further, in 20,517 French cases 96 forceps cases. In English practice in 10,337 cases 49 crotchet cases. And in 16,414 cases 79 crotchet cases. In French practice 20,517 only 16 crotchet cases.

Among the German practitioners the relative number of crotchet cases is still smaller. Before examining the English statistics I felt confident of these results which I have carefully deduced from them. Whence this great difference? Assuredly it is because the French use the forceps according to their early indications, and the Germans probably still more so than the French. A neglect of the employment of the forceps at a proper time may involve the use of the perforater and crotchet. Our statistics, did we know them in round numbers would probably give a greater relative number of craniotomy cases than

the English. Although we are not forced to the necessity of opening the head as often as they are on account of deformed pelvis.

CRANIOTOMY.

This is an old operation—one of great antiquity as well as the instruments which have been employed in performing it. The hook is recommended by Hippocrates, Moschion, Albucasis and Roslin. But with Ambrose Paré about the middle of the 16th century, began the dawn of a better surgery. His work is dated 1579. He employed different kinds of hooks for the extraction of the child and a knife for excision of its limbs. Maureceau's *tere tete* answered but little purpose; it consisted of a circular plate of steel fixed upon a rod, which when passed into an opening previously made with a scalpel into the fœtal head, admits of some extracting force.

The crotchet of Mesnard was improved by Dr. Burton. Dr. Smellie, with all his mechanical skill, was content to use Mesnard's crotchet double or single. But instead of his *perce crane* he employed a perforator shaped like a pair of scissors, with stops at the shoulders to limit their perforation. Dr. Davis speaks highly of a kind of forceps for nipping off small portions of bone from the fœtal head, and has dignified it with the name Osteotomist. He is the inventor of it. A variety of craniotomy forceps have also been invented and employed by different obstetricians, but these I shall not stop to describe; for with the perforator or scissors of Smellie and the crotchet of Mesnard, single or double, we may proceed to perform this operation, provided we have a knowledge of their indications and skill in their employment.

Strange indeed that this operation should be more readily undertaken than the application of forceps. There can be but one cause for this preference—want of skill in the use of the forceps. What deplorable necessity on the part of the practitioner to have to use the perforator, or a pocket knife, or what is almost obstetrically synonymous with them, ergot, when the forceps is plainly indicated; and yet, a faithful record of obstetric cases in our country would show this to be the case. Thus,

although this operation should be performed solely for the benefit of the mother, it is often done for the benefit of the practitioner!

There are three general conditions which fully justify this operation, disagreeable, dreadful and fatal as it must be to fœtal life.

1. When the relations of the fœtal head to the maternal pelvis are such that it cannot be extracted by the forceps, with any prospect of delivering the child alive.

2. When the pelvis will admit of the mutilated fœtus being extracted.

3. When delivery is imperiously demanded, and the case will not admit of version nor the application of the forceps.

Osborne has allowed one inch and a-half for craniotomy, while others vary from 2 to 3½ inches.

Osborne, one of the most skillful operators of his day, says that a fœtus, after putrifying so that the bones may be picked away, may be extracted when the anterio-posterior diameter is only one inch and a-half. But in a general way would allow 2½ for craniotomy. Dewees would not recommend the crotchet in a pelvis under two inches, and Davis one inch. The differences of space between one and three and a-half inches would depend more upon the operator and available instruments than upon the degree of space itself. For it seems that Dr. Davis with his great skill and available osteotomist would undertake a case of one inch, while Atkin and Clark would require 3 and 3½ inches. Fortunately we have very few deformed pelves among the women of our country; and although craniotomy is a very common operation among us, it is seldom required on that account. And this dreadful operation should be set aside by the timely induction of premature labor, or even abortion if needful on account of a very badly deformed and reduced pelvis.

The induction of premature labor according to the obstetric rules laid down in the books, afford better means of saving the life of the child, than the employment of the forceps at term; and abortion a better means also of saving the life of the mother, than in craniotomy at term. These measures properly attended to in time are far more reliable than the employment of instruments.

With Smellie's scissors or perforator, the head, chest or abdomen may be readily opened; probably in some instances a blunt hook with a concealed cutting edge might be required.

The opening of the head, as already hinted, is not a very difficult operation; nor is it all that is needed, as many erroneously suppose. In many cases after the head is opened and the brain escapes, and the cranial bones collapse, delivery will take place without further instrumental assistance. But this is not always the case; for in complete dystocia it will not proceed at all; and in cases of convulsions, hemorrhage, etc., even if it would in time take place, it becomes vitally important to expedite it. This can be best done by means of the double or single crotchet. The latter I think is preferable; for the extra blade seems to be employed solely in reference to the instrument's slipping, which it will not do with proper precaution. The slipping of the crotchet can be prevented by a proper application of it to the internal surface of some of the cranial bones, and well conducted traction afterwards.

The writer has found it always necessary to use the crotchet after opening the fœtal head; and thinks it is very wrong to admit the propriety of craniotomy under any emergency, and then insist on hours of delay rather than employ the crotchet. There is, to say the least, a great inconsistency in such conduct. The crotchet is a valuable instrument; and without it craniotomy would frequently be of no avail.

EVISCERATION.

This, though like craniotomy a fatal operation to the fœtus, is a safer one for the mother. In trunk presentations when version is utterly impracticable, this operation will generally enable the practitioner to turn and deliver the eviscerated child. A puncture made into the chest or abdomen by means of Smellie's scissors will, when properly enlarged, enable the operator to pass his hand into the thorax and abdomen and extract the contents of each. He may then turn the child with great ease as the writer knows from experience. In fact, he has always succeeded so easily in turning in such cases that he is inclined to ques-

tion any further mutilation of the child, when the pelvis is normal. The writer does not think that the advantages of this operation are fully appreciated at the present day.

DECAPITATION.

This operation when necessary according to the books, can be performed best by means of a blunt hook with a cutting edge inwardly along its concavity.

SYMPHYSEOTOMY.

I will pass this operation by with merited silence.

CÆSAREAN OPERATION.

This rare, bloody and almost constant fatal operation belongs to regular deliberate surgery. By which I mean that it always affords time for procuring the best surgeons of the city, town or country, and hence should be so regarded. Although this operation involves obstetric principles of a high order and thorough knowledge of the same, yet no obstetrician should attempt it without great surgical tact. For it has far more of surgery, *in se*, than of obstetricity.

But all obstetricians should be competent to the performance of the operation of gastrotomy for the preservation of the life of the child in case of the sudden death of the mother; or from rupture of the womb when the child could not be brought back through the rent in the organ.

To conclude: It is regretted that the length of this article will not admit of anything being said about the advantages of anæsthetic agents in the practice of obstetric surgery; and I must be content to state the following inferences which may be readily deduced from the foregoing treatise:

1. That the progress of obstetric surgery has been retarded by ergot.

2. That practitioners are inclined to rely too much on that drug when instruments are indicated and should be employed.

3. That ergot is, in its place, a good remedy; but that it has its own indications and its use should be restricted to them.

4. That the importance of practical obstetric surgery as a speciality does not seem to be fully appreciated.

5. That the study of obstetric surgery is too much neglected, although a thorough knowledge of it is indispensably necessary to the safe practice of midwifery.

6. That in all probability more mothers and children perish from a neglect of the proper use of instruments than their employment.

7. That the remarks of the writer are of a general character, and are not made in order to reproach the profession, but to call attention to the serious evils, which have been cited in this treatise, hoping that it may contribute its mite towards their correction.

ART. XIV.—*A Mixed Case of Measles, Pneumonia and Hemorrhage.* By Prof. C. K. WINSTON, M.D., of Nashville. Read before the Tennessee Medical Society.

Mr. Keelin, aged 19 years, came to this city some time in February, for the purpose of attending the Commercial College. The day after his arrival the fever of measels was developed.—On the third day the eruption appeared, partially, but retreated on the second. On the two subsequent days he had regular chills. The chills were arrested, and on tho second day thereafter I was called to see him. I found him bathed in profuse perspiration. Dyspnœa and pain upon inspiration, dullness upon percussion, rapid, soft pulse, cough with characteristic sputa of pneumonia. Used sinapisms, and calomel, ipecac, opium, with tartar at regular intervals; cupped, blistered, &c. This course, *pro re nata*, was pursued for six days without abatement of symptoms; respiration hurried, free perspiration, rapid pulse, cough and thirst. Failing in this way to subdue symptoms, determined upon the use of veratrum. Gave six drops, waited three hours—no effect; gave eight drops. In less than an hour the pulse was reduced from 130 to 60; breathing about the same, disposed to sleep. Ten hours after the pulse regained almost its former frequency. Gave six drops, repeated eight, with same effect. This course

was pursued on four occasions upon the return of the frequency of the pulse, at which time the veratrum was withdrawn, the pulse being permanently subdued. The patient was then put upon squill, ipecac, lobelia and paregoric. The expectoration became abundant, appetite returned, and he was dismissed. He improved rapidly, the lungs regained their resonance and expectoration subsided.

In the mean time his father, who had been written for, arrived, and was highly gratified to find him entirely recovered, except some remaining debility. About the tenth day, however, after the commencement of his convalescence, which was rapid, on Monday morning, I called to see him, having heard that his father had arrived the day previous, and found that he had just been seized with epistaxis. I regarded it as a matter of but little consequence, made a prescription and left. In the evening I called again and found his nose bleeding quite freely. Made some pledgets of linen, rolled them in alum, and plugged up the nose, used cold water freely to the head; bled from the internal nose—bled all night; in the morning removed the pledgets, and injected strong alum water—no good; injected kino, tanic acid, and alum with no advantage. Large quantities of gum arabic were blown forcibly into the nose. By this measure the hemorrhage from the nose was arrested, but blood was then freely discharged from the ears, which soon resulted in complete deafness. Blood was also freely discharged from the bowels and kidneys. It was now apparent that the bleeding was dependent upon general causes and local remedies were withdrawn. The general remedies up to this time consisted in muriated tincture of iron, sulph. acid and quinine, together with acetic acid and appropriate diet. About this time Prof. Buchanan was called in consultation. A saline cathartic was given with the hope of lessening the watery character of the blood, together with muriated tincture of iron; sugar of lead and opium were freely used. Under this course at the end of the fourth day the pulse, which had been very tumultuous, though very soft and compressible, became much more natural, there was a material subsidence in the hemorrhage, some return of appetite and hope for his re-

covery was entertained. In two or three days, however, the hemorrhage began decidedly to increase, and continued with occasional intermission until the 15th day, when he expired.

I have not introduced this case for the purpose of establishing any special mode of treatment, nor on account of any peculiarity connected with it, nor yet on account of its rarity; my object is simply to call attention to the pathology of such cases, with the hope of arriving at some sound principle of treatment, which at present is altogether empyrical and unsatisfactory.

Formerly the opinion obtained that in hemorrhage, whether active or passive, there was always a rupture of blood vessels. This opinion was first questioned, I believe by Mogagni, and it was subsequently determined to be incorrect by the experiments of Bichat. Numerous autopses developed no abrasion of the integuments or rupture of blood vessels, even under the highest magnifying power, and the question, as to how or under what circumstances can blood make its escape in such case, remains to be settled. Some suppose, and it is a mere supposition, that blood escapes in such condition on account, mainly, of some peculiar relaxation of the tissues, whereby the interstices thereof are so materially enlarged as to admit its passage. Others, as Magendie and Andral, to a disproportion between the fibrine and corpuscles. Others again, suppose that it may depend upon the fullness of the vessels, together with some peculiar irritation of the capillaries. These grounds, with perhaps others, when properly analyzed, seem to me to be altogether insufficient to explain the condition. In fact I am of the opinion that we are as yet entirely ignorant both in regard to the pathology as well as treatment of such cases.

I believe it is a well-established principle, that no matter can gain admittance into the economy except in a state of solution. In other words, that all food and medicine must be dissolved before they can gain admittance to the circulation. This position has, however, recently been called in question by Oesterlin. He gave charcoal to rabbits, and subsequently subjected the blood to the action of the microscope. By this means he asserts that he has discovered particles of charcoal of the size of from

1-6000 to 1-3000 of an inch in the blood, thus showing, in his opinion, that insoluble matter may be absorbed. Dr. Fleming, remarking upon this point, introduces the observation of Matteuci, to wit: "That the interstices of the animal tissues vary from 1-5040 to 1-5080 of an inch," and then asks, "What is to prevent small particles of charcoal from being absorbed? Now it is evident that Matteuci is here speaking of such interstices as exist in meshes of areola tissue and between muscular fibre, and not basement or homogenous membrane through which absorbed matter must pass. No interstices have been discovered in this membrane even by the aid of the compound microscope. And all matters which pass into the circulation by endosmosis must pass through two layers of this membrane; one belonging to the mucous coat, and the other the delicate wall of the capillary vessel. There is, therefore, a physical impossibility to the passage of undissolved matter. Moreover, if there were such openings in the basement membrane as is said to be affirmed by Matteuci in regard to the tissues generally, there could be no bar to the passage out of the blood corpusles; for these are about equal to the openings referred to, as well as the particles of charcoal observed by Oesterlin. The result would be, that the blood would be constantly escaping. These experiments of Oesterlin have been called in question by Dr. Headland who has experimented upon animals in the same way and could discover no charcoal in the blood, and who supposes that in the cases of Oesterlin that the charcoal produced abrasion of the mucous membrane and thus gained admission to the circulation.

I have introduced these facts for the purpose of calling in question the fact presented by Magendie and Andral, to-wit: that the blood in passive hemorrhage sometimes contains more and sometimes less *corpuscles*. If what has been stated in regard to basement membrane be correct, and I suppose no one will dispute it, how could blood corpuscles, which can be both seen and measured, pass through it? It would be as physically impossible as for undissolved matter to pass in. The blood in passive hemorrhage evidently passes by exosmosis, but how can it so pass in the normal condition? It would seem, therefore, that it must be

dissolved before it could so pass. This must be the case, or there must be some singular relaxation of the basement membrane, of which we have no idea or evidence. The question which I raise then is, that it is possible that those observers who have detected blood corpuscles in passive hemorrhage, have been mistaken. And the conclusion is, that in such cases the blood is dissolved always. And it would also appear that local remedies, especially astringents, are useless, and that our means of relief must be such as improve the powers of sanguification. As to what these shall be, we are greatly in the dark.

ART. XV.—*A Case of Death in Connection with the Use of Chloroform.* By A. H. BUCHANAN, M.D., Professor of Physiology and Surgical Anatomy in the Medical Department of the University of Nashville. Read before the Tennessee Medical Society.

I was requested by Dr. R. C. K. Martin, of this city, to examine a large tumor situated on the outside of the thigh of a negro woman, and, if thought advisable, to remove it. After a thorough examination of the tumor, it was agreed in consultation to extirpate it. To this decision the woman readily consented, as the tumor had troubled her for the last three years, and of late was rapidly increasing in size, and at times quite painful; she also cheerfully agreed to take chloroform, which was confidently recommended to her, as there seemed to be no constitutional infirmity to prohibit its use. The woman appeared to be in very good health, the mother of two children, and supposed to be about thirty-five years of age. The following gentlemen were present, and kindly assisted me in the operation: Drs. Martin, Mayfield, Nichol, Lewis, Smith, and Mr. Jones, a medical student. The chloroform used was obtained from Mr. Brown, one of the best apothecaries of the city, and from whom I have generally obtained all heretofore used in my practice, and without injury; it was therefore believed to be pure. Dr. Nichol was requested to administer the chloroform, with the use and effects of which he was quite familiar, having previously admin-

istered it in many cases. The woman laid down quietly on the table, and all things being ready for the operation, Dr. Nichol proceeded to give the chloroform in the usual manner, by pouring a small quantity upon a handkerchief and holding it over her nose and mouth, occasionally removing it in order to give free admittance of atmospheric air. Dr. Martin held his fingers upon the woman's pulse, and in a few minutes the ordinary effects of chloroform were manifest, and there being nothing in the woman's pulse or respiration to excite alarm, I proceeded to make an incision over the tumor about ten or twelve inches in length. Large veins coursed over and through the tumor, and the incision was followed by a free discharge of venous blood. Another incision or two passed through the *fascia lata*, and part of the *vastus-externus* muscle, which exposed the tumor, the largest portion of which was now readily separated from its connections by the handle of the knife and fingers, and without much hemorrhage.

About this time in the progress of operation, which so far had occupied four or five minutes, the woman became sick, and freely discharged the contents of the stomach. In another minute or two the attachments of the lower end of the tumor were separated by the cutting edge of the knife, when a very free gush of venous blood occurred. Sponges were pressed upon the bleeding veins by the assistants, and with a few more strokes of the knife, the attachments of the upper end of the tumor were separated, which occasioned more hemorrhage. At this time Drs. Martin and Nichol remarked that the pulse was very weak—scarcely perceptible—and in another moment there was no pulse. The pupils were dilated, the jaws were firmly closed, respiration suspended, and the woman appeared to be dead. Artificial respiration, the admission of free air, stimulants under the nose, dashing cold water on the face, and all the usual means of restoring life under such circumstances were resorted to as rapidly as possible, and persevered in for fifteen or twenty minutes, but all of no avail, for by this time the woman's jaws had fallen open, and she was completely relaxed—in short she was really dead.

The time occupied in the extirpation of the tumor was supposed to be by all present, about eight or ten minutes. The

amount of chloroform administered was not over the usual quantity. The amount of blood lost was supposed to be at least two pints if not more. The blood lost was chiefly *venous.* But one small artery required the ligature. The tumor had very large *veins* and sinuses coursing over and through its substance. It is twelve inches in its long, and five inches in its transverse diameter, and weighs about four pounds. The Society can examine the tumor, which is on the table. I call it a *fibro-cystic* tumor. By splitting the tumor partially, the cysts occupying its interior were found of various sizes, from that of a duck shot to an almond, and all filled with a gelatinous ash colored matter, the intrstices being occupied by a dense fibrous and fibro-cartilaginous tissue. Numerous large and small blood-vessels coursed through its substance.

Remarks.—My opinion is that this woman died from the combined effects of the chloroform and hemorrhage, and that the cause of death cannot be fairly attributable either to the chloroform or hemorrhage alone. But I would be pleased to hear the opinions of gentlemen of the Society on this case, as well as on the dangers attending the use of chloroform.

ART. XVI.—*Case of Intussusception of the Bowels.* By Dr. J. M. HAMMER, Sevierville, Tenn.

About the first of December, 1841, in my very first practice, I was summoned to the residence of Mr. E. in Sevier county, Tennessee, who I found suffering most severely with pain located in the bowels just below the navel. So acute was the pain, that I could hear him some distance from his house. When I arrived I at first thought it a case of colic. I examined him carefully; pulse 90 in a minute, strong and full; tongue furred; temperature a little above health; some nausea; loss of appetite, and great distress and anxiety. The pain was not constant, but returning by short paroxysms—representing it as like a knife was run through him.

Soon after arriving, I opened a vein and bled him freely, from

which he seemed to get no relief, gave him anti-spasmodics and anodynes (his bowels having been moved with oil before I arrived) until I feared to push them any further. Bathed him in warm water up to his arms; administered anodyne and anti-spasmodics, clysters, but no relief was obtained for some forty-eight hours. After a time, however, he began to get better slowly, and finally got entirely relieved except a soreness in the umbilical region, when I dismissed the case.

Sometime in the following January, a little over a month, I was summoned again in great haste to his house. When I arrived there, some six miles from Sevierville, he was lying on his bed in apparent good health, but told me that a very strange worm had come from him, and was in a bucket out doors. I went out to see it, and to my astonishment found it to about twenty inches of the *ilium*, with its mesentry mesenteric glands, adeps, veins and arteries, &c.

The two ends presented the appearance of having been inflamed. There was consequently but one conclusion to arrrive at, which was, that there had been an intussusception of the bowels —inflammation was lighted up, adhesion took place and finally sloughed off the part that was drawn in and passed out with the excrements.

I brought it home and kept it for some time in a jar of spirits, when one day in my absence, a drunken fellow got hold of it, dropped it, broke the jar and lost it.

Mr. E.'s health remained tolerable good until the following Spring, when after eating a hearty meal of onions and walking out over his farm, he was suddenly very ill, and died in a few hours. I did not get to make a post mortem examination but infer that his bowels became distended and the adhesion, being imperfect gave way.

I send you the history of this case from the novelty of it, (for it is not a case of surgery,) as I presume there have few if any such cases ever happened in East Tennessee.

ART. XVII.—*Surgical Notes.* By RICHARD O. CURREY, M.D., Knoxville, Tenn.

J. C., aged 38, in a drunken spree was struck a severe blow with a billet of wood across the upper angle of the right pairetal bone, causing insensibility for several hours. Called in on the seventh day, previous to which time he had had his head shaved, and was, by direction applying cold water dressings. He had also taken a dose of calomel, which had been followed by epsom salts.

Found the wound on 7th day much swollen; ununited; heat of scalp great; severe pain in head; cannot bear least movement; eyes intolerant to light; pupils dilated. The pain in head very severe at the point opposite to that on which the wound had been received, where it was also very tender to pressure. Mind confused and wandering. He had just before my visit gotten up and gone out for the purpose of starting to California. Pulse small, 70 weak; surface of body and extremities cold; face flushed and hot; tongue protruded with difficulty—broad and flabby, white coat; bowels sluggish, and had vomited once.

On probing the wound, as well as could be done at this late date, found no fracture—the length of the scalp wound being two inches.

Clipping the hair from the entire head, directed a bag of pounded ice to be applied—and at the same time sinapsisms to wrists and ankles. Ordered four anti-bilious pills to be followed with epsom salts if there was not a free action in four hours; room to be kept cool and quiet.

The next day, 8th of accident, found him more comfortable; no remembrance of visit yesterday; same treatment continued, with the addition of the neutral mixture as a refrigerant diaphoretic. Sunday intervening and much company calling, he was again made worse, the pain in the head becoming very intense, with a slight affection of left eye. It yielded however to brisk purgation, and the pounded ice bag, and on sixth day of treatment—the scalp having healed, and pains in head entirely subsided, he was discharged—enjoyining rest, and avoidance of sunlight and exercise, with low diet.

Case 2.—*Extraction of a fragment of Marble from Cornea.*—Mr. H., stone mason, presented himself for an examination of his eye. While chipping upon a block of hard white marble, a small piece had struck him on the eye ball. The fragment penetrated the cornea, opposite the inner edge of the pupil, and could be distinctly seen by looking sideways at the cornea—though direct examination detected nothing, the piece being forced in at right angle to the cornea. The magnifying glass discovered an abraded surface of the $\frac{1}{8}$ of an inch in diameter. With a fine pointed eye needle, the fragment was lifted out of its bed. No untoward event resulted. The fragment of marble was a thin scale, $\frac{1}{8}$ of an inch in diameter.

Case 3.—*Fracture of Distal Extremity of Radius, with dislocation of one of the small bones of the Wrist.*—W. R. in taking down an old house, threw up his hand to catch a beam which was falling from the roof, some six feet above his head. The force of the fall caused a fracture of the radius with dislocation of wrist. When first seen, three hours afterwards, the wrist was very much swollen and very painful—no motion in wrist—which was twisted with the palm an aspect outward. Any attempt at reduction causing intense pain, and unable to ascertain satisfactorily the nature and extent of the injury on account of its swollen condition directed cold applications to be made of spirits and water till swelling reduced—at the same time take an active dose of salts. This was effected in twelve hours. An examination of the arm then revealed the nature of the accident. Distinct crepitation was heard on rotating. The finger being placed on the head of the radius, and with the other hand catching a firm hold on the *styloid process* a rotatory motion was given to it when the head of the bone remained stationary. This was a painful manipulation yet it revealed the true character of the accident. There was no motion in the wrist, nor respiration nor pronation of the hand.

Making extension and counter-extension, and moulding the parts together, the small bone of the wrist slipped into its place. Preparing a splint according to Hays' modification of Bond's splint, it was provided with its roller and wadding raised along

the middle portion, and having laid the fore arm upon it, with the palm of the hand resting over the soft roller or cushion which had the effect to elevate the hand at an angle with the arm, a compress of folded cloth was laid upon the back of the wrist, and a roller was applied, beginning at the wrist, and carrying it around the hand so as to leave the thumb free—carry it to the upper part of the fore arm and there secure it. Then bring the arm with the palm towards the body, thumb erect, and support in an easy sling. Cold applications were continued to bandages, and after ~~ten~~ removals of the bandagings, he was discharged on the ~~12~~th day after the accident. His wrist continued weak for sometime, but he has entirely recovered without any deformity. The entire treatment was effected with only one splint—that of Bond as modified by Hays—and which may be found figured in works on surgery. So well pleased was I with the action of this splint, that though advised by a medical friend, who called to see the case, to use a second splint, *just for the looks of the thing*, and to prevent any imputation in case the wrist should not recover without deformity, that I was disposed to take the responsibility and continue the single splint. The result shows the utility of it.

The case happening just after the decision which was rendered in our Courts of Justice against Dr. Wood for malpractice, and being in every respect a similar case, I must confess that it was with some trepidation that it was taken in charge. Once convinced of the nature of the accident, and which could not be ascertained until *twelve hours* after it had occurred, the splint was adjusted, and continued, with only two renewals, for the entire time it was under treatment.

PART II.

MONTHLY MEDICAL RECORD.

PRACTICAL MEDICINE AND PATHOLOGY.

1. *Scorbutus—Scurvy.*—By Thos. A. Hill, M.D., Reading, Ill.—This disease is one that has never found a place in the catalogue of diseases for which I have prescribed until recently. I am not aware that it prevails in any other part of the State; yet, as the same cause—or at least what I conceive to be the cause—exists over a large portion of the State, I presume the same effect follows. I have always regarded scurvy as a disease of rare occurrence to the Western practitioner; consequently, I never expected it would occupy so large ashare of my time as it has for the last three months.

The disease appeared here in the early part of February, since which there have been a great many cases; and, in fact, cases of scurvy have outnumbered those of all other diseases.

In many it appeared in a violent form; in others, again, with no other symptom than langour, spongy and hemorrhagic gums, slight œdema of the feet, and an eruption resembling petechia on the legs and arms.

The cause of the prevalence of the disease here is obviously owing to a long continued abstinence or deprivation of fresh provisions, and a due quantity of acescent food, assisted by the intense cold of last winter. Owing to the scarcity and consequent price of fresh meat and vegetables, many have subsisted for several months almost exclusively on salted food.

Women during lactation appear to contract the disease more readily than others; a large proportion of the cases here were of this kind. In all cases, both male and female, there existed a debilitating cause. I saw no cases where the patient was healthy previous to the premonitory symptoms of scurvy.

The disease comes on with lassitude, complexion pale and bloated, spongy and hemorrhagic gums, and a feeling of stiffness of the flexor muscles of the legs, with slightly accelerated

pulse. As the disease progresses, the gums become much swollen and present a livid appearance, and sloughing off. Extremities œdematous, tense, glossy, and covered with livid and purple spots and painful. The muscular powers are now so prostrated that the patient can scarcely maintain the erect position.

The treatment in all cases has been simple, and so far successful. The first thing to be observed is to remove the existing cause. Let the patient be well provided with vegetable food, amongst which I find potatoes, turnips and cabbages cooked with vinegar preferable to all others. In my opinion, these articles eaten uncooked, or cooked, and eaten with vinegar, is all-sufficient in a large proportion of cases. Where medicine is required, I generally prescribe the following tonic preparation:

℞. Tinct. Columbo, Tinct. Gentian, Tinct.
Quassia, Tinct. Rhei, . . aa ʒi.

Mix; take a tablespoonful four or five times a day. This, together with a free use of lemon juice or citric acid, are about all the internal remedies that I have made use of. For ulceration or sloughing of the gums, I apply the Nit. Argent. until the gums are thoroughly cauterized.

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2. *Aphorisms on Diarrhœa, and its Treatment.* (*Translated from Bouchut's "Maladies des Nouveaux-Nes."* By J. C. Reeve, M.D., Dayton, Ohio.)—Diarrhœa, so frequent in infants at the breast, is often independent of inflammation and other organic lesions of the intestine.

Diarrhœa is a flux which results often from cold, mental impressions upon the infant, bad hygiene, and over-feeding; from uncleanliness, and the emotions of the nurse, etc.

Diarrhœa is often sympathetic of buccal irritation caused by dentition.

A milk, abundant or scanty, if it is *concentrated*, [containing too great a proportion of solids,] always produces diarrhœa.

A diarrhœa with yellowish homogeneous stools, is generally of little importance.

Such discharges becoming green after exposure to the air, from the reaction of the urine, indicates nothing grave.

A diarrhœa, with greenish-yellow discharges, or variegated with lumps of curd, indicates a considerable irritation of the intestine.

A diarrhœa, serious and abundant, is always a grave phenomenon.

Sanguineous diarrhœa and intestinal hemorrhages are very grave.

A diarrhœa slow, progessive, inconsiderable and apyretic, is not dangerous.

A prolonged febrile diarrhœa announces entero-colitis.

Choleri-form diarrhœa announces acute entero-colitis excessively grave.

Catarrhal and spasmodic diarrhoea generally subsides very speedily.

Diarrhoea causes enlarged abdomen in children.

Catarrhal diarrhoea sometimes engenders inflammation of the intestines.

It is an error, the result of prejudice, to maintain a diarrhoea of dentition.

Every considerable diarrhoea should be soon combatted by remedies capable of curing it.

A change of nurses, or the regulation of its periods of sucking by lengthening the time between them, frequently suffices for the cure of diarrhoea.

The nurse may be changed as often as necessary until one is found whose milk agrees with the child.

Children to whom solid food is prematurely given often recover of a diarrhoea as soon as they are fed with milk alone.

Catarrhal diarrhoea is caused by baths and the internal administration of astringents and opiates.

TREATMENT.—The physician cannot bring too much sagacity and prudence to the treatment of catarrhal and spasmodic diarrhoea of infants—those varieties of the disease which do not depend upon inflammation of the intestine. He should keep in view the primary nature of the disease, in order not to employ against it active remedies which could only be prejudiced to the patient, and which could perhaps be the cause of a gastro-intestinal phlegmasia.

He should enquire in regard to the mode of feeding the infant —whether it suckles a nurse, or is brought up by the nursing-bottle or cup. In the first case the nurse should be the subject of an attentive examination, directed both to her moral and physical constitution; her milk should be examined and analyzed. It is necessary, finally, to examine carefully the hygienic circumstances which surround the child, its susceptibilities to disease, and determine with care the progress of the accident.

He who does this, can, by modifying at his will the hygiene and the alimentation of the patient, triumph over those diseases which it would be useless to attack by the agents of the materia medica. He assures his success by his prudence. Prophylaxis is of all others the most important resource of our art.

A simple diarrhoea may be tolerated two or three days without fear, for it often disappears and leaves no traces. This result is familiar to those who have studied diseases of children, and I have often observed it both in private practice and in the wards of the hospitals Necker and Eugenie.

If the diarrhoea persists beyond this time, it is prudent to interfere, with moderation, however, with the double aim of modifying the excretion from the intestine, and combatting the nervous irritation of its muscular coat.

It is necessary, according to the circumstances which surround the infant, to modify its hygiene, regulate its food, change its nurse perhaps, place it in a mild temperature, guard it from cold and damp, and cause to be observed the most perfect cleanliness. In order to avoid irritation of the skin, after each evacuation it should be carefully sponged with warm water, its linen changed, and its nates and thigh powdered, (for which purpose lycopodium is far superior to all the other substances.)

The infant should be confined exclusively to the milk of its nurse, and she should be enjoined to suckle it less frequently. The diet should not go beyond this; or, not further than the use of a light decoction of oat-meal or quince-seeds, or a solution of gum in milk in addition.

The first measures to be employed are cataplasms, simple or sprinkled with a few drops of laudanum, kept upon the abdomen, and injections of three ounces or more of decoction of flax-seed, quince-seeds, bran, or starch. For my part, I prefer a small quantity of the decoction, say about an ounce and a-half, with two drops of laudanum. These injections may be repeated twice a day. In cases which resisted these first means, I have often given with success injections composed of about four ounces of mucilage of tragacanth, containing from one to two and a-half drams of borax. I have seen cases of several weeks standing, and which had resisted many other modes of treatment, cured in this way in twenty-four hours. These injections appear to be infinitely useful in the diarrhœa of dentition. I have often had recourse with success to the following mixture:

Lettuce-water, ...	℥iiss
Syrup of Poppies, . . .	℥ss
Tris-nitrate of Bismuth, . .	ʒj-ʒiij

Mix. To be taken in twenty-four hours in doses of a teaspoonful.

The sub-nitrate of bismuth has also been used in lavements, and MM. Lugue and Trousseau have employed it in this manner with success.

In some circumstances, and especially when the breath is acid, when the discharges are very green in color, and when the former measures have been inefficacious, it is necessary to employ a more active indication. A tablespoonful or two of the syrup of ipecac, should be given, fasting, or what is better, the powder of ipecac,—four to eight grains in an ounce of simple syrup.

It may be equally beneficial to administer the phosphate of lime in syrup, in doses of from fifteen grains to a dram; or calcined magnesia, four to eight grains; or the following formula of Hufeland's:

℞. Oculi cancorum, . . . grs.x
Essence of Fennel,
Syrup of Rhubarb, aa . . . ʒiss
M. A teaspoonful every hour.

In some cases where diarrhœa succeeds to constipation, it may be necessary to resort to a mild purgative.

It will rarely be necessary to exhaust all these means, or to resort to the use of rhatany, tannin, or other astringents. Simple change of regimen will suffice to cure the majority of cases of spasmodic and catarrhal diarrhœa; it is only obstinate when a new channel of disease is added to it and it has become a true entero-colitis.

Entero-colitis.—Inflammation of the digestive canal establishes itself most frequently in the large intestines, very rarely in the small intestines, and still more rarely in the stomach, and it well merits the name given it of entero-colitis.

Entero-colitis is the natural consequence of bad regimen of children, of bad milk of the nurse, of artificial nursing, of the premature use of solid food, greasy or otherwise, and of an attack of indigestion multiplied by the stupidity of certain mothers.

Fever, vomiting, diarrhoea, with discharges, green, or variegated in color, or serous, with wasting and great softening of the integuments, announce an entero-colitis.

Discoloration of the countenance and change of the features, indicate the development of an acute entero-colitis.

Great paleness of face, of waxy hue, with softening of its textures and excavation of orbits, announce an entero-colitis.

An infant which has excoriation or ulceration of the nates, internal surfaces of the thighs and malleoli, suffers from entero-colitis, acute or chronic.

An infant having the wrinkled countenance of age, and of earthy hue, has chronic entero-colitis.

Acute entero-colitis passes very readily into the chronic state.

Chronic entero-colitis, complicated with the thrush (muguet,) becomes immediately much more grave.

Complete discoloration of the countenance, its rapid withering, with extreme and sudden excavation of the orbits, following copious discharges, announce very great danger, and probably death.

Chronic entero-colitis is almost always fatal.

Treatment.—Before undertaking the treatment of entero-colitis, all those hygienic circumstances should be examined and regulated as directed for the preceding disease. The child should be nursed less frequently, and other food than milk entirely denied; it should be kept in its room, cataplasms, simple or sprinkled with laudanum, applied to its abdomen, and morning and evening a lavement administered to it of about three tablespoonfuls of some demulcent decoction, with one or two drops of laudanum. The demulcent drinks may be allowed which are mentioned in the preceding chapter. If these means are not sufficient, we must have recourse to more energetic measures.

Antiphlogistics.—Antiphlogistics and debilitating measures have been recommended by some physicians. Leeches in proportion to the age of the patient, were formerly frequently applied to the hypocondrium or the anus. Their employment does not seem to be indicated. Unless under special and unusual circumstances, such, for example, as high febrile reaction, with turgescence of the general capillary system, it is not necessary to employ them; their use is rather injurious than beneficial. They succeed but very rarely in checking the diarrhœa, while they enable the little patient by the loss of a quantity of blood not easily determined, and the flow of which is sometimes difficult to check. The advantages of their application cannot compensate for the inconveniences which may arise from them.

Cutaneous Revulsion.—Dubois has recommended, in the treatment of this disease, the application of a vesicating substance to the epigastrium. It is, however, in cases which commence with violence, *i.e.*, in choleri-form enteritis, that this medication is most advantageous. It is often crowned with success.

Baglivi and Broussais have rejected the employment of vesications as useless, and even dangerous, in this circumstance. This is wrong. Stahl combined vesications with sinapisms, and derived great advantage from them. Louyer Villamy has employed them with success; and for my part, I never fail to prescribe them when the disease takes on a certain intensity.

Intestinal Revulsion.—I designate thus the therapeutic method, which consists in establishing temporarily a secretory irritation of the stomach, which shall balance that of the large intestine.

The administration of ipecac, in the commencement of entero-colitis, suffices often to cause the cessation of the diarrhoea, and afterwards of all other symptoms. This is a result which I have many times verified in the service of Trousseau, who has great confidence in the employment of this mode of treatment:

℞. Ipecacuan, ... grs v–x
Syrup simplex, ... ʒj
M. To be taken at two doses, with ten minutes interval, for children from one to two years of age.

Absorbents.—As soon as acidity of the breath is observed in children afflicted with entero-colitis, and from the well-marked green color of the discharges considerable acidity of the gastric fluids may be supposed, it is beneficial to employ neutralizing agents or absorbents. These are sub-nitrate of bismuth in doses of from ʒj to ʒv, in syrup or in milk, powdered crab's eyes, phosphate of lime, calcined magnesia, in the same manner and the same doses. Trousseau employed also the saccharate of lime, which he dissolves in milk, to prevent this liquid from curdling, and to neutralize the acids which are developed in the alimentary canal of infants.

Tonics and Astringents.—In children much debilitated it is often advantageous and even necessary to resort to the employment of tonics. The extract of cinchona, or the powder of colombo, may be given; the former seems most efficacious, and can be easily administered by being divided into very small pills, and placed in syrup. The preparations of iron may also be given, as the tincture, or iron filings.

Astringents constitute the foundation of the treatment of the majority of physicians. Their employment is plainly indicated, and they may be administered by the mouth or by the rectum. Extract of rhatany in doses of four grains, or two to three grains of tannin, may be given, or the nitrate of silver, in a dose of one centigramme to forty grammes of liquid. Here is the formula of Trousseau:

℞. Argent. nit., ... 15 grs.
Aq. dist., ... ʒj
Syrup., ... ʒss

Sulphuric acid, as employed by Thompson, Hunt and Griffith, in England, has been used here with some success by Lepetit, at the same time that strong saline baths were administered to the child. I prefer the employment of a mixture of alcohol and sulphuric acid, known under the name of *eau de Rabel.* [Acid Sulph. Aromaticum ?] I order a mixture of antimony, thirty drops for a child of three months, and sixty drops for one of

two years, in about five ounces of liquid, of which eight or ten large teaspoonfuls may be given in the twenty-four hours. If the infant vomits the first dose, it must be persevered in, as tolerance is established after a few doses. At the same time baths should be given containing common salts in solution.

All these substances may be given in injections, composed of from four to six ounces of liquid holding the medicine in solution; eight or ten grains extract of rhatany, or half that quantity of tannin, may be thus given. Sixteen to thirty grains of alum may also be employed, or even five centigrammes of nitrate of silver. These last injections are employed daily by Trousseau; if their employment is not always followed by success, at least there is always a sufficient amelioration to obviate the objections which have been raised against them.

I have employed with great success injections of borax, ʒi to ʒij in from ℥i to ℥iv of mucilage of tragacanth; often in diarrhoea depending upon dentition, the flux was arrested by the second application of the remedy. Lesengue has employed with advantage injections of ʒiv to ʒvj of sub-nitrate of bismuth.

Opiates.—The indication of this disease by narcotics enjoys in Germany unbounded credit, and if we believe the eminent Hufeland, "opium is one of the most reliable of medicines." It should be administered with the greatest possible caution, and its action may be aided by frictions of the abdomen, with some anodyne liniment,

Complications.—It is not necessary to repeat here what has already been said upon thrush and ulcerations of the mouth, in the chapters upon those subjects. I will only make some remarks upon the treatment of erythema of the thighs and ulceration of the malleoli—complications of this disease which sometimes become very grave. The ulcers which appear upon these parts disappear, if cleanliness is rigidly observed, and they are frequently bathed with cold water; the limbs should be prevented from rubbing against each other by separating them with a pillow. No greasy ointment should be used about these sores. Hufeland carefully proscribes repellants, especially the preparations of lead, which may produce fatal convulsions. When numerous and large ulcerations are established upon the skin, the sufferings of the little patient become extreme, and its life is in danger. A topical astringent should then be used, which incontestibly possesses specific qualities; it is the bichloride of mercury dissolved in water. Seven grains may be dissolved in twenty ounces of water; a small portion of the salt will be decomposed, but a sufficient quantity will remain dissolved in the liquid; it should be applied to the parts several times daily.

[As the use of tris-nitrate of bismuth in this affection is new to many, and as the doses in which Bouchut prescribes it are much larger than ordinary, we append the following paragraphs from Headland's work "On the Action of Medicines." He closes it with those remedies which he calls "Stomach Anæsthetics," which "act locally on the mucous membrane before absorption, or without being absorbed at all;" which "seem to act locally on the sentient nerves of the stomach in the same way that aconite acts on the superficial nerves of the skin."—*Trans.*

"The tris-nitrate of bismuth acts also as an astringent on the mucous membrane of the intestine, and is probably the only astringent which is not absorbed. Being insoluble, its action is quite confined to the mucous surface. It may be given safely in very large doses, as (ʒss, or even ʒi,) and it is likely that its anæsthetic action may be in some part mechanical in its nature, and depend upon its affording a mechanical sheath to the irritable and painful surface of the stomach."—p. 95, * * *

"I have already alluded to nitrate of bismuth as seeming to be an astringent to the mucous surface of the intestine, although apparently incapable of absorption. It has been used with advantage in diarrhœa, and is highly recommended by Dr. Theophilus Thompson in the diarrhœa of phthisis."]

MATERIA MEDICA AND THERAPEUTICS.

1. *Arsenic and Stillingia in Diseases of the Skin.*—(Read before the Suffolk District Medical Society, July 25th, 1857, and communicated for the Boston Medical and Surgical Journal.) —By Wm. M. Cornell, M.D., of Boston.—The case of *impetigo* presented at a late monthly meeting of this Society, for medical improvement, together with its *arsenical* constitutional treatment, has suggested to the writer the following thoughts, and they are now presented to this meeting, not for the purpose of arranging the treatment in that particular case, or the usual treatment in the whole tribe of cutaneous diseases. The writer is aware that arsenical preparations have long been the prevalent and orthodox treatment in this class of diseases, as the mercurials formerly were in syphilis and iritis, and still are to some extent. But he must be allowed to differ somewhat widely from such routine practice. Custom may lead to bad, as well as to good practice. Within the memory of some present, it was customary to use venesection in a hundred cases, where it is now employed

in not more than a single case. Then, no physician could omit the letting of blood in a case of severe injury, or of *pneumonia*, or in most fevers, without incurring the reproach of being an "irregular practitioner," or a "Thomsonian," or receiving some other quackish epithet. Now—that is, within the last few years —Dr. Badeley, of the Royal College of Physicians, London, in his Lumleian Lectures, has dared to come down upon the practice of bleeding, and to denounce Dr. Rush, with whom that practice in America specially originated, as peculiarly "blood-thirsty"; and Dr. John McCall, of Utica, N.B., in his address delivered in 1855 before the New York State Medical Society—a most respectable body of medical men—dared to say, "It is now just fourteen years this month since I have bled a patient by the arm, or abstracted blood in any way, except in a few cases by cupping and leeching. The good people of Utica have no blood to lose, except in the service of their country, and I trust no such occasion will occur in my day." But this may suffice for venesection, as but few among us now resort to it on any occasion.

As to cutaneous diseases, arsenic has long been the general constitutional remedy. That this medicine may be given for a series of months, possibly for years, without any permanent injury, to some patients, and that under its use the cutaneous disease may disappear, I have not the least doubt. I have still as little doubt but that in other cases it inflicts lasting injury upon the patient, without removing the original disease; and the question is, whether we are not quite as likely to succeed in removing that disease with other less injurious agents, as with this potent remedy. I have long believed such to be the fact, and will now adduce some of the proof.

In 1846, what is now called *The Charleston Medical Journal*, was started, and was then called *The Southern Journal of Medicine and Pharmacy*. In the first volume, page 617, we have an article by H. R. Frost, M.D., of Charleston, upon the alterative properties of *Stillingia Sylvatica* (Queen's Delight.) Dr. Frost says, "this article has been in use many years, and reports of its effects still reach our ears from legitimate and illegitimate sources." He gives the following description of the plant. Class, Monœcia Monodelphia. Natural order, Euphorbiaceæ. Root—large, woody, perennial. Stem—herbaceous, two to three feet high. Grows in dry sandy soils, and flowers in May and June. The part employed is the root. It grows in abundance in South Carolina and Georgia. Few vegetable productions, in their recent state, exhibit more power, concentrated in a small compass, or exercise an influence more energetic upon

the particular organs to which they are applied, and through them to the system generally. So powerfully is this action exerted upon the capillary and secreting vessels, in changing their morbid states or conditions, and thereby disposing to a new and more healthy action, that in this respect it is nearly allied to mercury, exerting an influence little inferior, in many cases, and in others greatly to be preferred. It is the power which mercury possesses to change the action of the secreting vessels, which renders it so valuable an agent, and, in my opinion, the Stillingia is not very far its inferior. The operation of this article extends further—it exerts an influence upon the lymphatic vessels which mercury cannot equal, and is therefore an important medicine in its diseases." "If we open a drawer in which the recent root has been kept, we are sensible of an odor, extremely strong and acrimonious, and rather of a disagreeable character. Its taste is also pungent, and leaves on the root of the tongue and fauces an irritating and biting impression, exciting a flow of saliva. The juice of the root, applied to the surface, and rubbed upon it, occasions smarting and irritation. If we remain in a close room where the root is being boiled, and the vapor passes into the room, a sense of sickness of the stomach is excited, with a disposition to discharge saliva, with headache and other unpleasant symptoms."

"From the above, we recognize that the plant will present a close alliance to the most active of the Euphorbiaceæ. In its irritating operation upon the surface, it is not much inferior to the oil of Croton Tiglium, and, in its emetic and cathartic operations, superior to the Euphorbia Ipecacuanha and the Euphorbia Corollata. From its alliance with these plants, its activity might be inferred, and this has been fully verified by experiments."

"It possesses considerable *emetic* power, and is usually resorted to on this account by the residents of the country. A single transverse slice of the *recent* root, about the size of a sixpence, chewed and swallowed, is followed by considerable heat in the mouth and fauces, extending down the œsophagus, with burning in the stomach, nausea, and increased flow of saliva. The uneasiness continues; and, in persons who are susceptible to the operation of emetics, vomiting follows."

It has a *stimulant* and *alterative* operation. It has proved valuable in a scrofula. It has been administered in substance, in pills, or a thin transverse slice of the root, or in infusion, sweetened with sugar or syrup, and in the form of tincture. As the article loses its virtue by keeping, these modes of administration are objectionable. The plan which has been found most

efficacious to preserve its strength, and most agreeable for administration, is, to extract the juice of the recent root, by pounding the same, expressing and straining, mixing, in determinate proportions, with the best treacle, bottling, and preserving for use. The dose to be administered must be regulated by the effects.

It is in *chronic diseases* and *chronic inflammations* that the efficacy of the Stillingia is best manifested, and, more particularly, in the long train of consequences which follow *syphilis*, and in cases where the blood has become contaminated. Its reputation, in the secondary and tertiary forms, is well sustained, and of the many boasted nostrums for the cure of these cases, few will be found more deserving of a trial.

Dr. Thomas Y. Simons has also given us the following case of this disease, in which the *Stillingia* was beneficial. "The patient was a little girl, who had an enlargment of the tibia, to such a degree as to deprive her of all power of motion. Enlargments also existed in various other parts of the body, resembling nodes; upon the olecranon process, upon the head, and one, in particular, upon the forehead, of the size of an egg. The bones of the nose were much affected, insomuch as to cause a considerable depression. The condition of this patient was in a high degree distressing; seated in a chair, with the limbs contracted and swollen, she bid fair to pass a miserable and protracted existence, a burden to herself, and a source of anguish, distress and trouble to her parents. Various remedies, alterative and mercurial, had been tried by a physician long in attendance, with but little benefit. Dr. Simons, being at length consulted, determined upon a trial of the Stillingia. The infusion was employed. ℞. Recent Stillingia root, ʒiv.; water, ℔ i., simmered till one third was dissipated. This quantity was drunk during the twenty-four hours in such doses as not to nauseate the stomach in any degree. The medicine was continued some months, and at the expiration of several, she was so much improved as to be able to move about with the aid of a stick, have the free use of her limbs, and the swellings, particularly that on the forehead, considerably reduced. The patient has every appearance, at the present time, of being speedily restored to a considerable degree of health."

An excellent diet drink, much improved upon the old "Decoction of the Woods," may be made of the following articles. ℞. Stillingia root recent, ʒiv.; sarsaparilla, cut fine, ℔ i.; spruce shavings, ℔ iss.; sassafras root, ʒ vi.; water, one gallon. Boil, in a close vessel, a sufficient time to extract the virtues of the

articles. Water may be added as it evaporates, and it may be finally reduced to two quarts. To this, sugar or treacle is added, and the whole simmered to the consistence of syrup.

The saturated tincture of the Stillingia may be added to the decoction of the other ingredients, after boiling them, as its virtue consists very much in a volatile principle. The dose, for an adult, will be from half an ounce to an ounce.

In the third volume of the same Journal, we have an article upon the virtues of the Stillingia root by Dr. Thomas Y. Simons, Port Physician and Chairman of the Board of Health of Charleston, S.C. In this paper he refers to one which he published in the *American Medical Recorder*, Philadelphia, in April, 1828. Dr. Simons here more than confirms the favorable report of Dr. Frost, respecting the medicinal value of this article.

I have used it in a large number of cutaneous and other chronic diseases, and, I think, with decided benefit. I have employed it in dyspepsia, and in cases of loss of tone in the stomach, in general debility, and in numerous diseases of the skin; and I fully concur in the following declaration of Dr. Simons, who says, "I have used this plant for twenty years, and have found it the best vegetable alterative, separate or combined with sarsaparilla, especially when mercury is inadmissible, or to counteract the ill effects of mercury."

I would not say that it will answer all the purposes of mercury or arsenic, but in my hands it has done well, and it is not open to the objections which are made, and often justly made, to their use, and I think we are bound to use the safest article, if it will answer the purpose.

I have referred to the practice of bleeding, which was once general but is now mostly discontinued. I might refer to other changes in medical practice, for instance as it respects the use of mercury. Time was, when it was believed that mercury was the only resource in *iritis;* but a member of this Society has shown that this may be safely treated and removed without mercury.

For the year or two past, I have given the *Stillingia*, prepared from this root as the quinine is from the Peruvian bark. This is given in *alterative* doses of from one to two or three grains, twice or thrice a day. This is the dose for adults, and proportionally smaller doses for children, according to the age. In this form, it has been successful medicine, and one which, I think, the members of this Society will find fully worth a trial, where an *alterative* medicine is needed.

I have referred to the change of treatment by Dr. Williams

in *iritis*, and I now close this article by quoting the following from his able paper: "Whoever proposes an important deviation from the canonical precepts of our profession, is bound to justify his innovation by more than a mere array of statistics, given on his own authority, stating that a given course has been pursued in a given number of cases, with such and such results." In the justness of this remark, I fully concur, and in the beneficial use of the Stillingia have given the twenty years' experience of Dr. Simons, and the corroborating testimony of Dr. Frost, with my own experience.

The wisdom of the following remark from the same writer will, I think, be acknowledged by all: "If we *can safely* spare our patients the infliction of heroic remedies, from the effects of which they may be months in recovering, we confer a great benefit on them, and obtain another triumph for our profession."

CHEMISTRY AND TOXICOLOGY.

1. *Experiments on Colchicine and on the Comparative Action of the Dried Bulbs and Seeds of Colchicum.*—By I. L. CRAWCOUR, M.D., Professor of Chemistry and Medical Jurisprudence, New Orleans School of Medicine.—The Colchicine employed came from the laboratory of Mr. Merk—it was in powder, crystalline, of a light yellow color, very bitter to the taste, and producing an acrid sensation in the throat. It was not entirely pure, or it would have been colorless and crystallized. It is soluble in water, alcohol and ether, and the aqueous solution has a freely alkaline re-action.

In the first experiment Mr. Heinrich took one centigramme (gr. 1-16) of colchicine unmixed with anything, in order to study its taste. Soon after, he was seized with nausea, eructations and an increased flow of saliva. The nausea lasted several hours, even after supper, which was eaten without appetite. The pulse was lowered eleven beats in the first two hours—no other phenomenon was observed.

In the second experiment, eight days after, Mr. Heinrich took two centigrammes, enveloped in a piece of bread, at half past four in the afternoon. There was no change in the pulse for two hours. About eight o'clock at night he suffered from eructations and slight ptyalism, supper was eaten without appetite, and a peculiar vague sensation occurred which prevented him from concentrating his attention on what he was reading. About ten

o'clock he fell into a disturbed sleep, from which he was roused about an hour and a-half after by frightful dreams; he had a desire to go to stool, but hardly had he quitted the bed when the nausea increased and was followed by severe vomiting lasting about two minutes, and at the same time he had a large soft and copious stool, accompanied by violent tenesmus. These painful occurrences took place three times at short intervals. The matters first vomited, consisted of the undigested dinner and supper, then a greenish yellow and bitter liquid. About three o'clock Mr. Heinrich again went to bed, and slept until six o'clock, when fresh and copious vomiting again occurred, accompanied by painful evacuations of a mucilaginous greenish yellow liquid. The vomiting then ceased, but the nausea and total absence of appetite persisted for four days. For the first day after the experiment, Mr. Heinrich took nothing but a little cold water, for the hree subsequent days only a little soup. The stomach was large, very sensitive, and filled with flatus. The second day he had two stools, the third day, one, and the fourth, three, accompanied by much straining, and containing a large number of flakes resembling coagulated white of egg. The debility, considerable even the first day, in consequence of the numerous evacuations, was increased by the febrile disturbance. Mr. Heinrich was obliged to keep his bed the first day, and did not leave it for the three following. The fever commenced about the middle of the first day, with shiverings, followed by an intense heat for several hours, with thirst, increased pulse, disturbance of the brain and sleeplessness. The sensitiveness of the abdomen did not disappear until the fourth day. The quantity of urine passed could not be determined, on account of the frequency of the stools; it was turbid, and let fall an abundant white deposit.

Colchicine acts like other acid substances, and only after absorption. The stomach and intestinal tube are the first to feel its effects: the brain and spinal system are either entirely free, or are only secondarily and slightly affected. When death occurs, it is most probably from paralysis of the heart. The blood does not coagulate; it becomes thick, black and pitchy, resembling that of the worst cases of cholera. It accumulates in large quantity in the right side of the heart, and very slight in the left auricle. This fullness continues in the vena cava superior as far as the cerebral veins, and in the vena cava inferior as far as the liver. In some cases, this accumulation is found as far as the commencement of the pulmonary artery. It has not yet been determined whether the colchicine passes as such into the urine and blood, or whether it undergoes any modification.

Applied to the skin—colchicine produces neither the tingling nor burning sensations of veratrine, nor the inflammation which results from the application of cantharidine and other acrid substances. Its taste is bitter, but not hot. It slightly increases the flow of saliva, but without producing ptyalism; when, however, the colchicine is enveloped in any substance, this symptom does not take place, and is invariably absent in animals. Its action on the stomach is slow. According to Mr. Heinrich, in his second experiment when two centigrammes were taken, the gastric symptoms did not occur for four hours. The emeto-cathartic or drastic action did not make its appearance for nine hours. Digestion had been totally prevented, for the dinner was vomited unchanged, and we must recollect that the symptoms persisted for four entire days.

Emetine and veratrine produce vomiting (the latter, frequently purgation) soon after ingestion and the gastric phenomena disappear in a short time. Colchicine almost invariably produces enteritis, and sometimes a slight gastritis; veratrine produces neither, and emetine a little circumscribed inflammation of the stomach, only when given in poisonous doses, and when vomiting cannot occur, as in rabbits. Colchicine has more resemblance to elaterine and colocynthine, although its purgative property is not constant; for in two cases half a gramme and one gramme administered to rabbits did not purge, a thing of invariable occurrence with the two other alkaloids. From the above we see that there is a great distinction between colchicine and veratrine, although in the books, colchicum and white hellebore have been placed in the same category, as if their active principles had been identical. The difference is found even in their chemical reactions, and becomes still more marked, when we compare their action on the brain and spinal marrow, for colchicine does not affect these at all. In common with aconitine and digitaline it exerts a paralyzing influence over the the heart, but differs from these in all other respects.

A most remarkable circumstance, is the fact, that the length of time required to produce death bears no relation to the quantity of the poison administered. For a rabbit ten centigrammes is the minimum mortal dose, and fourteen hours are required for this result; fifty centigrammes produced death in nine hours in one, in ten hours in another; it required twelve hours for this quantity to kill a third; in another instance one gramme did not cause death until after eleven hours. In no other toxic agent is such an anomaly to be found.

In poisoning by colchicum in men, we find circumstances sim-

ilar to what obtains with colchicine. The phenomena require several hours for initiation, and death only occurs after the lapse of some considerable time, and sometimes only after several days; the cerebral and spinal functions are perfect until death, and the blood is thick and pitchy. No action on the kidney has been observed either in men or animals from colchicine, the urine has neither been increased nor modified, nor does it contain blood, but this latter circumstance has been noted by Strumpf as occurring after poisoning by colchicum. In colchicine, as in colchicum, the acrid principle predominates, the narcotic is hardly observed, and therefore our classification would place it among the acrids, differing from digitalis and aconite, which are narcotico-acrids. Mr. Schroff made several experiments on the comparative action of the bulbs of colchicum, gathered at different times of the year, and compared the bulbs with the seeds. The following are the results:

The seeds are less active than the dried autumnal bulbs. The autumnal bulbs, dried by the sun and in the air, do not lose their activity by this preparation—the bulbs of summer, as well as the fresh plant, are much less active than those of autumn. The mode of drying as above is preferable to all others. Preservation for several years does not interfere with their activity. The symptoms observed during life, and the results of post mortem examinations, are the same after poisoning by colchicine, or the fresh or dried bulbs. This proves, therefore, that the former is the active principle of the plant.

Professor Albers, of Boun, published, in 1851, the results of the action of colchicine on frogs. These differ in some important particulars from those of Mr. Schroff, but we must recollect that the one operated on rabbits, the other on frogs, whose organization differs in its toxic susceptibility from that of mammifera. Half a grain of colchicine introduced under the skin of a frog's thigh produced, in fifteen minutes, rapid breathing, in thirty-three minutes the thigh was paralyzed, in an hour the paralysis was total. All sensation and reflex action was destroyed, respiration was lost, but the heart beat for nine hours. Mr. Albers also related the effects of the seeds of colchicum. An infusion of two grammes (30 grains) produced in nine hours an abundant perspiration; at the same time the sensibility of the skin was diminished, and pain became less intense. From this, he deduces the benefit obtained by this remedy in rheumatic affections. He finds this infusion particularly useful in the desquamation which occurs after acute gout; it materially diminishes its duration.

Oberlin has recently shown that colchicine is not the active principle of colchicum—by further experiment he obtains a crystalline principle which he calls *colchiceine*—its properties are as follows: it crystallizes easily in pearly lamellæ, is completely insoluble in water, but communicates to it a slight bitterness, it is soluble in alcohol, ether, methylic alcohol and chloroform, which contract an intense and persistent bitterness. It pre-exists in the seeds of colchicum, and is much more active than colchicine: thus we have seen that five centigrammes of colchicine produce death on a rabbit in from 12 to 14 hours, and a gramme death after 7 or 8 hours; one centigramme of *colchiceine* produces death in 10 or 12 hours, but five centigrammes causes complete paralysis of the limbs, and death in a few minutes.

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2. *Valerianate of Zinc.*—The following is the formula, as it is prepared by Mr. Pierlot, and is the preparation used by Dr. Declat in the treatment of nervous affections:

Distilled water 32 drachms.

Valerianic acid, 1 drachm.

Carbonate of ammonia, q. s., to neutralize the acid, add—alcoholic extract of valerian, 2 scruples.

By this formula, we obtain in a concentrated solution all the constituents of valerian root, and in as slightly a disagreeable form as possible. Valerianic acid, according to Pierlot, is an educt and not a product as has been hitherto supposed.

Ten drachms of valerian root yield about seven grains of valerianic acid.

The dose is a teaspoonful 3 or 4 times a day.

SURGERY.

1. *Selection from Surgical Notes.*—By Prof. Gunn.—*Resection of Elbow-joint.—Medication.—Amputation.—Death.—Remarks on the relation which medication bears to disease and cure.*—Mr. S., was a resident of the interior towns of this State and the subject of ulceration of the cartilages, and caries of the joint ends of the humerus and ulna, as they enter into the formation of the elbow joint. His general health was not immoderately affected by the disease, but the loathsome and crippled condition of the arm, with the fact that an operation afforded the only means of cure, made him anxious for its performance. Accordingly, on the 23d of January, 1853, the patient being under the influence

of chloroform, I resected the joint, removing two and a-half inches of humerus, and three and a-half of the ulna, leaving the radius intact. It is unnecessary to describe the steps of the operation further than to say that, an incision at the back of the elbow was made, corresponding in shape with the accompanying diagram |——|, the ulnar nerve carefully avoided and the operation completed with reasonable celerity. No ligatures were required. The wound healed kindly at either extremity, and the middle portion, which corresponded with several fistulous openings granulated and assumed a healthy appearance. After the first two days succeeding the operation, oysters, beef-steaks and ale entered generously into his diet, and the patient so far recovered as to leave for home at the end of three weeks. At this time the improvement in the arm and general health was such as to warrant the most sanguine hopes of a cure ; and there is no doubt, that under appropriate treatment such a result would have followed. But anxiety to look after his business, led to exposure, in consequence of which the wound inflamed, and constitutional sympathy was manifested. An irregular, of the herb order was summoned, who administered the ever-present and all-powerful lobelia ! Profuse suppuration followed the inflammation, lobelia was continued, and under their coinciding tendencies, the patient gradually lost strength, irritative fever supervened, and on the 30th of the following May I was summoned to the patient, to find the wound nearly re-opened, the head of the radius protruding and covered with granulations. The bones were healthy, and there was simply a profusely suppurating flesh wound, exhausting the patient and attended by irritative fever. This condition had continued for several weeks, and been treated with low diet and medicine ! There was now no hope, but in amputation and supporting treatment, and these afforded but little, so much reduced had the patient become. I removed the arm at its middle, and ordered London porter and the extract of beef. The wound healed perfectly, but the patient sank two weeks subsequently to the amputation.

Remarks.—The above case affords a striking illustration of the evil effects of ill-applied and profuse medication. There is not in my mind, the least doubt that recovery would have followed entire abstinence from medicine, and the continuation of generous diet. The free suppuration which followed the inflamed condition of the wound, was exhausting in its tendency, and called for supporting treatment; it received the reverse ; the prostrating effects of the medicine favored the formation of pus, and thus, in addition to its direct tendency, contributed to ex-

haust the patient. It was a direct and absolute agent for evil. There was no indication for *medicine;* yet how few have the courage to say as much to a patient!

"I felt some hesitancy in putting forth that book." The distinguished author of "New Remedies" spake thus in reference to this work. The reason assigned for this hesitancy was, that he feared that he was encouraging the disposition manifested by the profession to administer, and the people to take, too much medicine swallowed. There is also no doubt that physicians prescribe too much of the same article, and too little of that which pertains to diet and regimen. They rely too implicitly on the supposed curative properties of medicine.

The reason of the disposition alluded to by Dr. Dunglison, and which he feared he was encouraging, lies in an altogether mistaken idea of the relation which a medicine bears to a disease, and to the recuperative process. I unhesitatingly make the assertion, that medicine never *cured* disease—that there is no *direct* relation between a medicine and a disease—that there is no mysterious curative tendency in any medicine. There is only one curative tendency, and that lies in the organism—it is inate with the being—it is a necessary part of its existence and undoubtedly is the same force which tends to preserve it, and presides over its unceasing changes—it is everywhere present in organic life—it heals over an abrasion in the plant and closes up a wound in a man—it enables the drooping flower to revive and bloom afresh, and the crowning work of creation to arouse and throw off a syncope. The means of calling this curative force into action are manifold, but a cure is effected *only through its agency.* The most that a medicine can do is to arouse it to action in some instances, and favor its operation in others. There is no direct relation between an inflammation and the lancet, or tart. antim., or verat ver., or cal. and opium; yet any of these agents may not only be useful but absolutely indispensable, by so affecting the system as to favor the operation of this venerable but much ignored "*vis medicatrix naturæ.*" We bleed for acute pleuritis, yet who will say that there is a *direct* relation between the lancet and the disease? A recovery follows, but who will say that the loss of twenty ounces of blood *cured* the inflammation? It simply so *impressed* the system as to favor the curative effort of nature—an effort that will oftentimes be successful without aid, though at others imperatively requiring it, and failing in its absence. The antagonism between quinine and an ague, would seem to realize a direct relation between a medicine and a disease—in other words, the idea of a specific; but a strong mental

emotion may accomplish the same result. An old pionerr in this State suffered for many successive years from an ague, which quinine finally failed to cure. Other remedies, also, were at last powerless, and in spite of all medication, each alternate day brought its paroxysm of chill, fever and perspiration. Pursuing his way along a woodland path one day, his ague surprised him an hour earlier than usual. Hurrying home as fast as his shivering, chattering condition would permit, his progress was suddenly interrupted by the appearance in his path of a huge black bear. For a moment the two stood gazing at each other, the man perfectly paralyzed with fear, after which the bear trotted off, leaving the patient minus the chill, with the sweating stage fully developed, without the intervention of the fever. The disease was effectually broken up, and there was no return of it for several years. What was the relation between a dose of living black bear and the ague? Direct? or indirect? Did it operate as a specific? or, through the *impressibility* of the system?

Within the past few years many undoubted recoveries from pulmonary phthisis have resulted from the free use of oleum jecoris asselli, with and without brandy, and with appropriate regimen. Do such results indicate a *direct* relation between the remedies and the malady? Fat beef, butter and good ale will succeed as often, and the explanation is to be found in the physiology of nutrition, and the pathology of the disease. And in this connection may be expressed the belief, that if the various forms of cancer are ever cured, it will be through influences brought to bear upon the function of nutrition.

Divest medicine of the idea of its *mysterious* relation to disease, and the seductive charm which leads to its continual administration is lost, and much less will be exhibited. When the object is to restore suspended or impaired functions, or to alter functions, or to alter and improve the process of nutrition, by supplying or withholding certain elements, and so ordering the regimen as to derive the greatest possible good from such elements, medication will definite, certain and moderate. If the object is to effect a given result by operating on the *impressibility* of the system, medication will be so conducted as simply to produce a desired effect, leaving to nature the real *curative* work. Too much medicine is administered by continuing its exhibition too long. It is comparatively easy to learn when and how to commence giving medicine, but hard to learn when to leave off—so hard indeed that some men seem never to learn the lesson. There is no course more injurious to the real benefit to be derived from

medicine, than the blind and unphilosophical exhibition of remedies *by the clock*. Doses should be repeated, or not, according to the time which has elapsed. But I forbear, and while I express an abiding faith in remedial measures, confess to a growing dread of hyper-medication.

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2. *Ligature of the Common Carotid.*—The last number of the *New York Journal of Medicine* contains a very elaborate and interesting article upon "*The Early History of Ligature of the Common Carotid Artery*" with a report of the operations in the city of New York, by James R. Wood, M.D., Surgeon to Bellevue Hospital. From it we glean the following facts and conclusions:

The *first* operation of this kind on record, is to be found in a German translation of Bell's surgery, in which case it was performed on account of an accidental wound of the Artery, in the removal of a scirrhous tumor, respecting which, however, no date is given.

The first *authentic* case, recorded is that of Mr. Fleming—an English Naval Surgeon occurring in 1803, and was reported in the "*Med. Chi. Journal*," for January 1817.

The second authentic case, and the *first operation of the kind in this country, in which the Artery was tied for the extirpation of a tumor*, was that of Dr. Cogswell—Hartford, Ct., and occurred only eighteen days subsequent to the *first recorded* case by Fleming.

The first recorded case *for Aneurism*, was by Astley Cooper; the *second* by Dr. Amos Twitchell *of our own country*—(Keene, N.H.) The first *successful* operation of the kind, for Aneurism, in this country was that of Dr. Wright Post of New York City, and was performed January 9th, 1813.

The following table exhibits the number of these operations in New York City, by whom and for what, they were performed:

	NO. OF OPERATIONS.
Jas. R. Wood, M.D., Surgeon to Bellevue Hospital	9
Valentine Mott, M.D.	44
Gurdon Buck, M.D., Surgeon to N.Y. Hospital	4
John Watson, M.D., " "	1
A. C. Post, M.D., Prof. of Surg. to Univ. Med. Col.	1
W. Parker, M.D., " " Col. Phy's. and Surg's.	9
J. P. Bachelder, M.D.	1
W. H. Van Buren, M.D., Prof. of Anat. in Univ. Med. Col.	5
W. Detmold, M.D.	5
T. M. Halstead, M.D.	1
D. Meredith Reese, M.D.	2
C. E. Isaacs, M.D., Demons. of Anat. in Univ. Med. Col.	1
Isaac Green, M.D., late Surgeon to Bellevue Hospital	1

	NO. OF OPERATIONS.
A. B. Mott. M.D., Surgeon to St. Vincent Hospital	4
T. S. Thebaud, M.D.	1
W. R. Donaghe, M.D., Surgeon to Dewitt Dispensary	1
Geo. T. Goodward, M.D.	1
Stephen Smith, M.D., Surgeon to Bellvue Hospital	1
Total	92

Summary.—The common carotid was ligatured for the following causes:—

Hemorrhage—Whole number nine, of which six recovered and three died.

Malignant Diseases of Head or Face—Whole number seventeen, of which four resulted in the apparent cures of the original diseases; ten were decidedly benefitted, growth of tumor being for a time arrested; two died; one not noted.

Aneurism by Anastomosis—Whole number ten; of which four were cured; five were benefitted; one died.

Aneurism of Branches of Carotid—Whole number four; all recovered.

Epilepsy—Whole number two; both benefitted but not cured.

Removal of Tumor—Whole number seven; all recovered.

Secondary Hæmorrhage occurred in five instances; slightly in two, and severly in three, all recovered, the hæmorrhage being controlled by pressure.

Date of Separation by Ligature was noted in twenty-four cases—maximum period, thirty-one days; minimum, nine days, average fourteen days and twenty-one twenty-fourths.

The article, as a whole, is a complete historic compend of this branch of surgery in New York city, and among the ablest concontribution to this depatment of medical literature.—*Medical Independent.*

OBSTETRICS.

1. *On the Asphyxia of New-born Children and its treatment.* By Dr. MARSHALL HALL.—"The newly born infant and the newly born of many of the mammalia are in a peculiar condition, both in an anatomical and physiological point of view. The foramen ovale and the ductus arteriosus, being still open, the blood of the pulmonary circulation is still diverted from the channels it is destined to pursue, and in this respect it resembles the reptile tribes. Respiration and every stimulus, except tempera-

ture, being absent, the excitability of the spinal system, and the irritability of the muscular system, exist in their highest condition, according to a law of animal life which I announced some years ago, viz: that these faculties are, throughout the animal kingdom, inversely as the stimuli. The new-born fœtus is, therefore, a creature of high excitability. But such an animal bears the absence of stimuli precisely in the same ratio. Respiration is the chief of these stimuli; therefore, to arrive at the subject of this paper, the new-born fœtus can long survive the absence of respiration. The condition of apnœa and of asphyxia, without the absolute loss of life, is therefore of long duration, and the hope of restoring the stillborn infant is long protracted; so must, therefore, our efforts at resuscitation be.

"These efforts consist—

"1st. In measures to induce efficient respiration; and

"2dly. In measures to maintain the circulation.

"In order that respiration may be effected, we must adopt the following means:

"1. The infant must be placed in the prone position, in order that all fluids, which might obstruct the entrance into the windpipe, flow away.

"2. Nature's mode of operation being to impress the trifacial and cutaneous nerves, the external excitors of respiration, by the external cold, we must dash a few drops of cold water on the face and the general surface.

"3. We must proceed, having failed to excite respiration, to imitate the respiratory movements:

"This must not be done by any forcing means; even the human breath forced into the infant's lips, may tear the delicate tissue of the fœtal lungs. We must, on the contrary, adopt some measure of drawing the air into the lungs. This is effectually accomplished by first placing the little patient briskly in the prone position, to clear the fauces; then pressing gently on the back; and then removing that pressure, and turning it gently on the side and a little beyond.

"4. Meantime, the limbs are to be rubbed, with gentle pressure, upwards, to promote the circulation, by propelling the venous blood towards the heart.

"5. At proper intervals we must again endeavor to excite the respiration physiologically.

"The infant is to be placed with the face prone, and douched alternately and rapidly with water of the temperatures of 60° and 100° Fahr. High and low temperatures are equally excitants of the reflex function of respiration, and their power, with-

in physiological limits, is in proportion to the difference of those temperatures. We must remember that the newly-born infant is a creature of high irritability and low stimulus, and that the foramen ovale and ductus arteriosus are open—both events greatly calculated to protract life and hope in the case of apnœa; and we must long, very long persevere in our efforts to save the still-born. The stillborn infant has been restored after it has been neglected for hours. There is a remaining consideration. The effect of apnœa is a condition of the blood surcharged with and poisoned by carbonic acid; from this condition of the blood a secondary asphyxia and convulsions are apt to occur in the adult. I do not know whether this be the case with the newly-born infant.

"The remedy and preventive of such secondary asphyxia would be free exposure to the breeze, with the inhalation of very dilute pure ammonia.

"The treatment of the still-born infant may finally be thus briefly resumed in the form of rules:

"1. Place the fœtus on the face.

"2. Sprinkle the general surface briskly with cold water.

"3. Make gentle pressure on the back; remove it, and turn the infant on the side; and again place it prone with pressure.

"4. Rub the limbs with, gentle pressure, upwards.

"5. Repeat the sprinkling only now, with cold and hot water (of the temperatures of 60° and 100° Fahr. alternately.)

"6. Continue these measures, or renew them, from time to time, even for hours. The embers of life may not be entirely extinct."—*Medical Times and Gazettee*, Dec. 13, 1856.

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2. *On Puerperal Fever.*—By Dr. Murphy, Professor of Midwifery in University College, London.—This paper is a sequel to a former paper (*vide* "Abstract," Vol. xxxiii,) in which Dr. Murphy objects to the propriety of considering this disease as an inflamation of one or the other tissues. He now points out, that neither in the mode of the attack, in the symptoms, in the post-mortem appearance, nor in the treatment, does puerperal fever agree accurately with peritonitis. A closer resemblance to phlebitis was admitted, because both were blood-diseases, but he denied that they were identical. He then proceeds to explain his views of the nature of the disease, and shows that it is the result of poison. *Its action is definite and specific.* The seat of that action is the serous surfaces, especially the peritoneum and uterine veins, chiefly because of the rapidity of their absorption. He denies that the action itself should be considered a *specific*

inflammation, although he admits that in certain cases inflammation may be excited. The term inflammation is used too extensively, being made to embrace actions perfectly opposed to each other. The design of inflammatory action is to preserve or repair organized structure, yet the term is given to actions that destroy it. Thus, cancerous inflammation, tubercular inflammation, are expressions sometimes used in such a manner as to mean that cancer and tubercle were only forms of inflammation. So, also, in the infantile lung, post-mortem appearances were described as lobar, lobular, vesicular pneumonia, which were caused by collapse of the lung. The tendency of a poison is to destroy organization; it is incorrect, therefore, to consider its action as a *specific* form of inflammation, which, whenever it takes place, is only for the purpose of limiting the action of the poison; and in this sense, just as the deposition of tubercle on the peritoneum is accompanied by peritonitis, so the puerperal poison may excite peritonitis; but the more powerful the poison, the less peritonitis; and the weaker its influence, the more distinctly are the evidences of inflammation observed. The action of the puerperal poison is on the blood; the quantity of fibrin is increased; the quantity deteriorated, a profuse exudation of morbid fibrine takes place having none of the properties of healthy fibrin, it is not organizeable; dissolves into a creamy substance, which melts into a fluid like pus, and, mixing with serum, forms the abundant "lactescent fluid" of authors. Exudations are not found in the veins, because they are not adhesive, but dissolved fibrin, like pus, is found abundantly. The puerperal poison seems a contrast to the typhus poison, which destroys fibrin, yet the typhus poison, absorbed by a parturient patient, will cause puerperal, not typhus, fever. It is the same with erysipelas. *The action of the poison is modified by the dose, as well as by the temperament and constitution of the patient.* Puerperal fever does not attack all indifferently, but selects its victims. The most important feature of this law is the manner in which the characters of the disease are modified by the quantity of the poison absorbed. When it is in excess, the patient may die without any other symptoms than a fluttering pulse and cold, livid surface. On the other hand, the dose may be so small that true inflammation is set up to arrest it, and thus peritonitis, phlebitis or arthritis takes place. Hence the contradictions amongst the authors those who meet the latter class of cases calling the disease peritonitis, &c., while those who witness the former, stand aghast at symptoms which no theory of inflammation can explain. The coexistence of hooping-cough and measles,

of syphilis with erysipelas, proves that two morbid poisons may each set up their specific actions in the same person at the same time. Erysipelas and puerperal fever have occurred in the same patient; but the author has generally found erysipelas to precede or follow puerperal fever; but when the latter was at its height the former disappeared.

The author objects to the opinion that erysipelas and puerperal fever are identical, and does not consider those cases described by Gooch, in which the peritoneum was pale and colorless, as puerperal fever at all. They might be instances of erysipelas, if this poison ever attacks serous membranes. The author considered the poison as a contagion, just like the cadaveric poison, which seems so similar to it; and he briefly enumerates the symptoms of the disease to explain the principle which should guide us in the treatment. According to its strength, the constitution makes an effort to get rid of the poison, whether by vomiting or by purging, by the skin, or by the kidneys. The observation of these efforts led Donat to use emetics; Boër, kermes mineral; Denman, tartar emetic; and Armstrong, salts and senna. If the effort fail, the poisoned blood accumulates at the centres of the circulation, which are relieved by a prompt and bold depletion; for such a purpose, thirty, forty, even fifty, ounces of blood have been taken with decided benefit; but depletion should instantly follow the rigor, because if time is lost, the very same treatment may only hasten dissolution. Camphor and turpentine have been recommended in the treatment of this fever. These remedies are not only stimulant but anæsthetic, and are useful not alone in supporting the constitution against the attack, but by diminishing pain, they lessen nervous exhaustion. Reasoning on these facts, the author has tried chloric ether with great advantage, and recommended it strongly to the consideration of the profession. General rules cannot be laid down for treatment. If the dose of the poison be a maximum, nothing will save the patient: if in such quantity that the constitution can make some effort to get rid of it, much of our success will depend upon a close observation of the manner in which the effort is made. Prompt depletion has saved many a patient. The judicious use of emetics, purgatives, diaphoretics, and even diuretics, has averted the attack by aiding a natural effort. If the dose of the poison be a minimum, then peritonitis, or phlebits, become prominent, and must be treated as such. Thus what are called the inflammatory and ataxic forms of this disease, merely signify the degrees in the dose of this poison. The author alluded to the importance of prophylactic agents, to *ventilation*

and the improvements lately introduced, to chlorine as a means of destroying the poison, and to anæsthetic agents as a means blunting the sensibilities of the nervous system and diminishing the activity of absorption. In this sense he considers chloroform extremely valuable; and so far from fearing its influence in causing puerperal fever, he looked upon it as a preventative.—*Lancet, March* 28, 1857.—*Ranking's Abstract*, 1857.

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3. *New Treatment of Ovarian Dropsy.*—Dr. Sampson is attempting the radical cure of ovarian dropsy by establishing a fistulous communication between the cavity of the cyst and that of the peritoneum. He does this by puncturing the enlarged ovary with a trocar and canula in the ordinary way, but allowing only a small portion of the fluid to escape by the canula. This is then withdrawn, and the union of the external wound promoted. By pressing the tumor gently every day he forces a little of the fluid into the cavity of the peritoneum, and thus keeps the wound in the tumor open. I have seen several of Dr. S.'s patients who have been subjected to this mode of treatment with apparent success. One of them has been under treatment many months, the cyst occasionally filling, but easily reduced by gentle pressure, showing that the fissure still remains open.—*Ibid.*

OPHTHALMOLOGY.

1. *On Diseases of the Eye.*—By Theophilus Parvin, M.D., Chairman of the Committee.—Ophthalmic and Aural Pathology are connected by more than a conventional union. Analogies which obtain between light and sound, between the anatomy and physiology of the eye, and the anatomy and physiology of the ear, have counterparts in the morbid conditions to which the organs of vision and hearing are subject. Another bond of union is found in the fact that disease of the one organ may be associated with disease of the other, or may be metastatic with reference to it; nor are these facts at all surprising *a priori*, when we remember the continuity of structure belonging to the mucous membrane of the eye and lids, and that which lines the eustachian tube and internal ear; and moreover, that this membrane is continuous with that of the alimentary canal, and thereby a wide range of sympathetic action must be established,

that may evince itself in disorder not only of either of these organs of special sense, but of both together, or of both alternately.

The essential character of an eye or of an ear is an expansion of nervous matter, excitement of which by any cause produces the sensation of *light* in the case of the former, of *sound* in that of the latter. For the perfection of each, so that one may be a complete optical instrument, the other a complete acoustic apparatus, certain subsidiary parts are essential; while nature, with consummate wisdom, provides for the protection of each by defences of bone and sentinel nerves.

We have much oftener to treat maladies located in one or more of these subsidiary parts than those belonging to the true eye or ear. In St. Mark's Hospital, during a period of eight years, among 2,385 patients there were but 114 cases of nervous deafness, while there were 553 of inflammation of the external meatus. In the Glasgow Eye Infirmary, during the year 1851, there were, of 1,048 patients, but 45 registered as having amaurosis, 156 with pure conjunctivitis, and in at least three hundred more the conjunctiva was affected with one or more of the other tissues of the ball, or of its appendages. In the Ophthalmic Hospital, at Canton, in the years 1850 and 1851, the entire number of patients being 3,659, diseases of the retina claimed but 165, while those of the conjunctiva had 1,356; and in the Royal London Ophthalmic Hospital, during a period of ten years, with 65,553 patients, the cases of amaurosis were but 4,865; and on the other hand, conjunctival maladies numbered 35,193.

These statistics, taken at random from the records of various institutions, are introduced merely to present in the most striking light, confirmation of the truth asserted—a truth which commands the immediate assent of every physician's knowledge and experience. This truth, however does not diminish one tittle the demand for accurate diagnosis, and skillful and scientific treatment, when we reflect that disease of the secondary tissues may invade the nerve substance itself, or in its direct consequences be as damaging to the functions of the organ as if it had. Corneitis may terminate in retinitis, while the purulent ophthalmia have caused vastly more cases of blindness than have diseases of the retina. Deafness is much oftener consequent upon some malady of the meatus, or of the tymphanal membrane, than of the auditory nerve.

In the investigation and in the treatment of diseases of the eye and of the ear, there are demanded not merely a thorough

acquaintance with the anatomy of these organs, and a cultivation of the intellectual faculties, but likewise an education of touch, sight, and of hearing, too, since auscultation is resorted to as a means of diagnosis in aural pathology, and great dexterity, if not ambi-dexterity; nor should we omit from this catalogue of qualifications an accurate knowledge of optics and acoustics. Those who in this department have made themselves famous as practitioners and authors, have done it by laborious investigation, by patient observation, by studying, not merely books, but actual diseases, wherever found, and as often and under as varied circumstances as possible; indeed much must be learned in it as men learn a *trade*—by careful and continued practice.

It is unfortunately true, especially in our Western country, that very many of the people are neither just to themselves nor just to our profession, as it regards diseases of the eye and ear; and men in most respects intelligent, who, when assailed by some general disease, would shrink from the presence of a quack as from pollution and death, readily employ such a character when an ophthalmic or aural malady is to be relieved. If the people alone were to blame for the support given ignorant or designing quakery, we might leave them with sightless eyes, or with deaf ears, and empty pockets, to bemoan sorely their own folly, trusting that eventually there would be a reaction from this greatest evil, and they would learn that their truest friends and wisest counsellors in every physical malady were the members of the regular profession. But should we not ask ourselves, have we cultivated these specialities as we ought? Have we educated ourselves more particularly in the diagnosis of diseases of the eye and of the ear, and likewise in their treatment? Should not some change be made in the teaching of our medical colleges —as recently suggested in the *Cincinnati Medical Observer* by one of the ablest and most eminent members of our profession in the State (Dr. Byford, of Evansville)—so that ophthalmic and aural maladies, and other specialities, if deemed necessary, shall be more thoroughly and completely taught?

In the brief period allotted to student life in our institutions devoted to medical instruction, crowding professors and cramming students, and with the few facilities for personal inspection, and, alas! too, with the unsatisfactory and partial preliminary training of very many who aspire to the doctorate, or rather upon whom the degree descends, how few there must be who at the outset of their professional career are qualified to diagnose one-fourth of the diseases of the eye or ear! Yea, how many

practitioners may be found whose ophthalmic pathology is embraced in the words "sore eyes," and whose entire treatment in diseases of the ear consists in syringingthe external meatus with rapid water, or astringent solutions, or introducing into it sweet oil and laudanum, or various stimulants and irritants. Surely the facilities for acquiring both theoretical and practical knowledge in these most important branches of our profession should be greatly increased; the medical student should hear more and see more of the diseases of the eye and of the ear, and every physician should be as thoroughly qualified for their treatment as he now is not only for general practice, but likewise for the duties of surgeon or accoucheur. Were this done, the richest field of quackery would be wrested from the vile harpies who now occupy it so largely, and become the sole, undisputed and perpetual possession of legitimate medicine.

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Having already spoken in somewhat general language of the diseases of the eye and of the ear, and also called attention to some of the more obvious relations which they sustain to our duties and interests, we propose more particular consideration of these diseases, merely in their therapeutical relations, endeavoring also to present a partial *resume* of recent important facts and truths pertinent to them.

Diseases of the ear have never commanded at the hands of the profession that study which is their due; for, in addition to the facts that the literature of the subject is but scanty, and the best of it of but recent origin, the study of the anatomical structure of the middle and external ear, still more of the changes induced by diseases, is invested with many and serious difficulties. The function of hearing, too, is often impaired so gradually, and even its entire loss not being half such a calamity, either in reference to happiness or usefulness as the destruction of vision, the physician is not consulted until even the most intelligent treatment would often fail in effecting cure, or even relief. The testimony of one of the ablest writers upon diseases of the ear, is that aural surgery is now no farther advanced than ophthalmic surgery was fifty years ago.

The general principles of scientific medicine and surgery are undoubtedly our best guides in the study, examination and treatment of diseases of the ear. That important first step—diagnosis—is especially important in all aural diseases. Indeed it might be advisable, when the diagnosis cannot be satisfactorily made, to decline treating cases. For the exploration of the external ear, sunlight is undoubtedly preferable to any artificial

light; and the polished tubular silver speculum will be found, as a general thing, much better than the valved instrument. Catheterism of the Eustachian tube is an operation which is not only dangerous, but it is rarely necessary, and as rarely, perhaps, beneficial; therefore, the physician who attempts it should not only be satisfied of his skill, but otherwise of the absolute necessity for the step. As a general thing, we use the same ointments and solutions in diseases of the eye.

Among the recent novelties in aural practice may be mentioned a method of treating otorrhœa, proposed by Mr. James Yearsly, which consists in applying dry cotton, pressing it directly upon the suppurating surfaces, after having cleaned the meatus by gentle syringing and a porte sponge. Mr. Yearsley's plan, however, receives decided condemnation from Mr. Toynbee, who, as you well know, is one of the very first authorities in aural diseases.

Mr. Westropp, of Bristol, proposes a new form of artificial membrana tympani: it is made by dipping an oiled stick, cut in the proper shape, into a chloriformic solution of gutta percha, repeating this until a film of sufficient thickness is formed to peel off in one unbroken piece. The membrane thus formed will be a tube closed at one end. This is found to answer a better purpose, in many cases, than the dry cotton plan of Yearsley, or the vulcanized india-rubber membrane of Toynbee.

The Ophthalmoscope marks a new era in the investigation of certain diseases of the eye. It should be a matter of pride to us that a native of our own State, Dr. E. Williams, now of Cincinnati, introduced this instrument in the Royal London Ophthalmic Hospital; and Dr. Williams' was among the first and most complete accounts of the ophthalmoscope, the method of using it, and revelations made by it, published in the English language. The ophthalmoscope is now a *sine qua non* to every one who wishes to be completely prepared for the diagnosis of the various diseases of the eye. However beautiful in theory this exploration of the posterior segment of the ball, so that organic changes may be as accurately and fully known as if located in the cornea, may be, yet it must be confessed that, in practice, the ophthalmoscope is of more negative than positive value. Its use is prevented by several pathological conditions which may obtain in the anterior segment of the ball; and, on the other hand, the evil consequences which may result from its application forbid a rash resort to it. "The chief value of the opthalmoscope," according to Mr. Dixon, "seems to consist in enabling the surgeon to set aside, as positively hopeless, a large number

of cases formerly termed *amaurotic*, or nervous, which were assumed to be still curable, because their real nature could not be demonstrated."

The method of sub-conjunctival section in operating for strabismus, proposed by Guerin seven years since, is now meeting with considerable favor. Various forms have been given to the knife for cutting the tendon, while Mr. Critchett recommends blunt-pointed scissors. Just here we would remark that the boldest plagiarism we ever met with in medical literature has been recently perpetrated by either a man or a myth, under the name, titles, etc., of "Thomas Graham, M.D., F.R.C.S., etc., etc., late of Sidney, Australia." The original article is by Mr. Critchett, and is published in the London Lancet, May, 1856; while the plagiarism is published as an *original* article in the second number of the North American Medico-Chirurgical Review, March, 1857. It is strange that Professors Gross and Richardson could be so imposed upon.

The majority of ophthalmologists still adhere to the nitrate of silver treatment in the purulent ophthalmiæ, although there is great diversity in the strength of the solution resorted to, some using but one grain of the salt to the fluid ounce of water, while the greater number prefer from two to six, or eight, or even ten grains.

We have in the purulent affections of the conjunctiva a perversion of the normal function of that tissue. We know that the laryngeal and tracheal mucous membrane, in a certain form of inflammation, instead of elaborating its normal secretion, proceeds a step higher in the scale of vital actions, and exudes lymph. In like manner the degree of inflammation is such, combined with exposure to the atmosphere, that the conjunctiva produces a true purulent secretion—exudation corpuscles are converted into pus-globules. Now in each of these morbid conditions the voice of intelligent experience declares unequivocally in favor of the efficacy of a solution of the nitrate of silver applied directly to the diseased surface; and possibly the philosophy of its action in each case is, that as an irritant or stimulant it induces a diseased condition inconsistent with that previously existing. It is not, however, all cases of conjunctivitis that should be treated with this remedy, but only those marked with purulent discharges. * * * * * * *

In the treatment of the diseased condition of the conjunctiva, generally of that portion belonging to the upper lid, commonly known as granular lids, or granular conjunctivitis, but which is really hypertrophy of the villious tissue, but little progress seems

to have been made recently. As local applications to the morbid growth, escharotics are relied on by some, astringents by others, while most use both. The late Mr. Tyrell, whose treatise on diseases of the eye cannot be too highly prized, was the first to introduce the mild plan of treating this disease, after having signally failed with the heroic measures pursued by Saunders; and certainly Mr. Tyrell's success, mainly with the liquor plumbi sub-acetatis as a local application, is much in its favor.

Mr. Dixon speaks favorably of sugar of lead finely powdered and carefully dusted over the diseased surface, completely coating it and filling up all interstices. Dr. Jacob applies the same remedy to the inverted lid, but is careful to wash it off thoroughly. Mr. Dixon's mode of applying this remedy we believe to be palpably wrong. The treatment pursued by Jacob, along with other local remedies, such as sulphate of zinc and nitrate of silver in solution, conjoined with constitutional treatment, may sometimes be very beneficial; yet it must be confessed that the acetate of lead, thus applied, often produces an alarming degree of inflammation, and we cannot counsel this treatment. One of our number has recently found, in several cases, as a first application to the granular surface, nitrate of copper is of great advantage; it is less painful than the sulphate, and its results more satisfactory; it requires time and more numerous experiments to decide upon its value.

Among other new local remedies, the chloride of zinc, one grain to the fluid ounce, has the authority of Mr. Critchett; while Dr. Hays, in the last edition of Lawrence, recommends, in certain obstinate cases, a solution of iodide zinc—a remedy which has recently received the commendation of two other distinguished members of the profession, without according credit to Dr. Hays for its original suggestion—*per contra*, the iodide of zinc has not proved satisfactory in Dr. Fenner's hands.

Dr. C. S. Fenner, of Memphis, Tennessee, highly eulogizes the *phytolacca decandra* as an internal remedy in the treatment of granular lids. He writes, in the first number of the *North American Medico-Chirurgical Review:* "With the aid of this remedy, I have been enabled to effectually cure cases of granular conjunctiva that, without it, would have resisted all my efforts; indeed, with me it has proved almost a specific for the exacerbations attending this complaint. Patients under the influence of phytolacca often expose themselves, and take a severe cold, without affecting the eyes in the least." Dr. Parry, of Indianapolis, sometime before the publication of Dr. Fenner's paper, made use of the poke root in the case of a patient who had an

attack of rheumatism while laboring under a severe and obstinate conjunctivitis; in a short time the rheumatism yielded, and likewise the conjunctival inflammation, though this had previously resisted ordinary treatment.

Without constitutional treatment of some kind, we doubt whether any local means would alone effect a cure where there is a decided tendency to the production of large, spongy, bleeding granulations; nor do we believe that any of the various remedies resorted to approximate the character of a specific. Among constitutional remedies we believe that tonics, especially quinine and iron, occupy the first rank.

A European physician has recently found great benefit in two cases of marked albugo, from the use of galvanism; he also found this remedy very useful in four cases of nervous palpebral palpitation. "In the first, persistent convulsive movements of the eye-lid, accompanied by great photophobia, had resisted other means. In the second, involuntary contraction, due to bad acquired habits, occurring in a girl ten years of age, were relieved. The third was another example of convulsive motion of the eye-lid, with photophobia; and the fourth was a case of ptosis."

Dr. Henry W. Williams, in a paper read before the Boston Society for Medical Observation, last August, and subsequently published in the *Boston Medical and Surgical Journal*, advocates the non-mercurical treatment of iritis, and adduces forty-eight cases, in the treatment of which no mercury was used, the result being uniformly favorable, except in four who had been injured by irregular practice. "The remedies mainly relied upon"—we quote from the *Cincinnati Medical Observer*—"were atropia, ten grains to the ounce, as a local application; iodide of potassium, quinine, opiates at night, and occasional leeches." The quantity of atropia is extravagantly and unnecessarily large; indeed, a solution of that strength would be highly irritating; and moreover, its application might be followed by fatal consequences. No doubt the iodide of potassium is the great curative agent in the treatment pursued by Dr. Williams—this remedy and turpentine ranking next in efficacy to mercury in iritis. Notwithstanding the favorable results following Dr. Williams' plan in the cases he reports, yet the contra-indications to the use of mercury must be very decided, before we would risk a case of acute inflammation of so important a structure as the iris, to such treatment.

A few years since Mr. Canton stated, in the *London Lancet*, that the *arcus senilis*, often seen in cataractous patients, though

not exclusively in such, was a fatty degeneration, "and in no instance was this condition observed without there being fatty degeneration of the heart." Here he seems to have rested his investigation, not examining whether the opacity which may invade the lens in the aged might not, sometimes at least, be similar in cause and character to that affection of the cornea, the connection of which with cardiac disease he so clearly demonstrated. In the April number of the *British and Foreign Medico-Chirurgical Review*, Mr. Jordan, Demonstrator of Anatomy at the Queen's College, Birmingham, adduces nineteen cases of cataract, every one having disease, more or less serious, of the heart; "and in several of the cases a fatty condition of the heart might be reasonably predicted." Microscopic examination of an extracted cataract revealed fat globules in the nuclei of the delicate cells covering the surface of the crystalline lens, and here and there a few delicate plates of cholesterine." If the question, "May not cataract be the result of a process identical with or analogous to fatty degeneration?" asked by Mr. Jordon, he answered in the affirmative, much light will be thrown on one of the obscure points in opththalmic pathology, for certainly the nature and causes of simple uncomplicated cataract have hitherto been but very partially known. As to the relation between heart disease and cataract, the writer would state a few weeks since he operated for cataract upon a patient who presented decided evidence of disease of the heart. The patient—a female—was 63 years old, and had been remarkably healthy until within a few months, when she suffered from severe headaches and attacks of fainting, if she exerted herself much, or suddenly assumed an erect position, and her vision commenced failing in the right eye—the sight in the left was lost twenty years before from neglected iritis—a distinct *arcus senilis* marked each eye.

PART III.

EDITOR'S TABLE.

TO OUR SUBSCRIBERS

Once more. We sent out, in our July number, accounts to all subscribers who were in arrears, both far and near, hoping at least that a respectful notice would have been taken of our call. But we must confess our surprise and mortification at the utter disregard which has been paid to our accounts. What are we to think? Only two out of the whole number, with an indebtness of about $1000, have remitted the amount due by them—the remainder are either dead or they have removed away or they are determined to withhold from the *printer*—not from us—that for which he has labored so assiduously.

We mentioned in our last that we contemplated in the December Number publishing our subscription list, so that it might be seen who were patrons of the Journal since its origin in 1852. We do this first because in the main we have felt proud to have enrolled on our list so many of the distinguished men of our country—and second, because we were desirous that each reader of the Journal should see and know what company he keeps. Unless we see reason to change our determination we feel inclined still to do so. Would you not feel proud to see your name with a clear receipt? Then *remit at once.*

EAST TENNESSEE MEDICAL SOCIETY.

The Annual Session of the East Tennessee Medical Society will be held in this city (Knoxville) on Tuesday 20th day of

October next—being the first day of the Division Fair, at 7, P.M., in the basement room of the Presbyterian Church.

The Annual Address will be delivered by Dr. R. H. Hodsden. Physicians who design contributing cases to the Report on the Surgery of East Tennessee are requested to forward them at once to the undersigned.

RICHARD O. CURREY,
Knoxville, Tenn.

MEDICAL INSTRUCTION.

The undersigned will, during the month of October, commence a course of practical instruction in Chemistry and Anatomy for the benefit of medical students, to continue four months. Two lectures will be given each week on each branch of study with experiments and demonstrations.

The room is arranged with a sky light, and fully supplied with all the necessary chemicals and apparatus.

Tickets to each course of study $15. Extra charge for anatomical material only. Apply to

RICHARD O. CURREY, M.D.,
Knoxville, Tenn.

MEDICAL LECTURES FOR 1857–58.

The season has again rolled around when our young men, who have entered upon the study of medicine, are going forth from the office of the preceptor to attend upon a course of medical lectures in some medical school. In the multiplicity of schools now throughout the country, they may experience some difficulty in making a selection.

We feel disposed to aid them with one word of suggestion—not advice—and we give it, only that they may take it, or not as they please.

1. Who are the men under whose instruction you are about to place yourselves for the next four months? Are they well

versed in the practice, as well as the literature of the profession? Are they esteemed at home as men of professional character?

2. Are all the branches of medicine taught thoroughly in their school, and do they possess all the modern facilities for imparting instruction? or are they content with delivering the same course of lectures which they delivered years ago—without any amendment or alteration?

3. What are the opportunities for acquiring clinical instruction, for as lightly as some may speak of clinical lectures they are essential to the making of the physician? In this respect the New Orleans school of medicine and University of Michigan are superior to all other schools.

4. It is to be presumed that, all other things being equal, every Southern student will attend some school in the South, and for this reason only that he can here better become acquainted with those diseases which he will be called upon to treat than if he were educated in a Northern institution. It is too true that there is a wide difference between the diseases peculiar to the South and those of the North, and that consequently those schools in the South, where the teacher comes in daily contact with them, has more familiarity with them, and understands their treatment better than those of the North. We say then select a Southern school. Do you ask what one? We cannot decide for you. Do you wish to go to Charleston? They possess fine Hospital advantages in that city, and you will there meet and hear in the Medical College, Geddings and Dickson and Frost, while Kinlock and Cain and Porcher of the Institutes will permit no means to pass untried to indoctrinate you into the mysteries of the science of medicine.

Do you prefer Augusta, Ga.? There you will meet the intrepid Campbell, whose claim to a remarkable nervous discovery has been acknowledged by the celebrated Marshall Hall—and Dugas, the surgeon of the South.

Or probably New Orleans, in your estimation, offers peculiar advantages in its Charity Hospital and medical clinics. There Fenner in the Practice will discourse to you respecting all those peculiarities of Southern diseases, while Crawcour as Chemist

will show you how intimately this science is connected with medicine, and by his analysis of organic compounds—secretions and excretions, convince you that a physician *must* understand chemistry—as well as that *a teacher of medical chemistry must be a practical physician*. Those of the School of Medicine—while in the University, Stone, the surgeon, and Nott, the anatomist and the author, are men whose signatures will give eclat to any diploma.

If in Memphis you desire to matriculate, you may rest assured that the venerable Millington will do all in his power to teach you the application of Medical Chemistry, and with Shanks and Merrill, whose names are well known to the profession, and the advantages of the city Hospital, it will be your fault if you are not prepared to combat disease when you go forth and take your position in the ranks of the profession.

Or, like a large majority of students now-a-days, will you go to Nashville? If so, Jennings in general and special anatomy will so impress upon your mind the structure of the human frame that you will never forget it. Winston will discourse so eloquently and so fervidly upon the articles of the Materia Medica and their therapeutic action, that you will regard him as a tower of strength, and Eve will, with the clearness with which he diagnoses the nature of disease, and the promptness and skill with which he removes the diseased mass—convince you of his well deserved reputation as a surgeon, while in the city Maddin and Callender and Mayfield will give you advantages in private instruction equal to any in the Union, as important too, and as thorough as that obtained in the college—and a generous community will enable you to spend the season pleasantly.

Louisville presents to the student the names of Yandell and of Smith—the one in Physiology and the other in Chemistry—both of whom enjoy a reputation inferior to none.

And Old Transylvania still stands forth, her lustre not dimmed nor her glory departed—for she still numbers among her corps of teachers the younger Dudley and Peter and Bush.

In the Old Dominion, at Richmond, Gibson, the worthy son of the worthy old Professor, and Wellford are sustained by men of talent and merit.

We know there are those also who prefer Savannah, where there are two schools—and St. Louis where Pope and M'Pheeters are found in one school and McDowell and Moore in the other.

With this array of fifteen schools, where is the difficulty in selecting a school in the South by our southern students? And if our students will stand by our southern schools, or will rally around those of them which offer them advantages, we will soon see, if they do not already exist, institutions which will vie with any in the northern States.

By these remarks we do not wish to be misunderstood. We are not for arraying the South against the North—we contend only for the admitted fact that southern physicians should be so educated as to give them all the advantages of a knowledge of southern diseases. We admit that with anatomy and physiology it makes but little difference where they are studied, so Hospital facilities are afforded for their prosecution; but in the theory and practice of medicine, the climatic influences on disease must be known—must be felt and so taught; in the principles and practice of surgery, the student should know what are the bearings which a southern climate exerts upon operations of a capital character; we have heard it stated that in a certain city of the South almost all operations requiring amputation prove fatal; in chemistry, the general principles are the same every where, but *medical chemistry* refers to the change in organic matter—and these are influenced by climate and by habits—so that it is intimately connected with pathology and therapeutics. So that in nearly every branch of medicine the student who designs practicing in the South should understand fully and clearly what are those influences which climate and locality exert upon disease and the therapeutic action of the medicine employed to control it.

We have said enough to show the student where he can obtain such knowledge as he needs for his successful practice.

MEDICAL GOSSIP.

☞ We have received a beautiful photographic likeness of Dr. Elisha Kent Kane from Messrs. Childs & Peterson of Philadelphia.

☞ To Messrs. Lindsay & Blakiston of Philadelphia we are under obligations for the "Physicians Visiting List for 1858. We have used these "Lists" for many years, and they have become indispensible to us in our daily practice.

☞ James McClintock, who was formerly a Professor in a medical school in Philadelphia, for some reason a few years ago put forth a series or batch of patent nostrums, styling them "Family Medicines." For this he was degraded from the profession by an expulsion from the American Medical Association. What was the surprise of every one on learning that this same Dr. McClintock had been by the Board of Guardians of the Philadelphia Hospital, Blockley—elected as chief resident physician—and still greater wonderment that it was done on the recommendation of David Meredith Reese, M.D., one of the Vice Presidents of the American Medical Association. Such was the exception taken to this appointment that Drs. Carson, Ludlow, Biddle and Hartshorne, consulting physicians—Drs. Morris, Jewell and Penrose consulting obstetricians—Drs. Neill, Agnew, Thomas, and Halsey, consulting surgeons; and Drs. Tutt and Marshall, of Va., Coleman and Berrien, of Ga., Xauphi, of Mobile, Seymour of Tennessee, Cumminsky, of Pa., and Graham, of N. C., resented the insult by tendering their resignations.

So ends the course of clinical instruction at Blockley, for the Board of Guardians, knowing that their action would result in bringing about empty benches at the next season of lectures, took the start and passed a resolution annulling the course of instruction annually given in that Institution. What will be done with Dr. Reese for his recommendation of a man whom the Association had degraded? Virtually he has said to the Asso-

ciation, "I am one of your Vice Presidents, and I take the authority to rescind what you have foolishly done with the character of the celebrated James McClintock. He shall be reinstated, or else as your Vice President the profession of Philadelphia shall receive a stab which it shall feel." And he has inflicted a blow upon the cause of medical education in Philadelphia. Her right arm has been lopped off by this act of his, for his recommendation obtained for McClintock the place without any doubt. Has not Dr. Reese rendered himself liable to censure—ay! more, is he not amenable to the Association for resisting one of its acts? We will see next May, what we will see.

Ranking's Abstract for January—July, 1857, has been received from the American publishers, Messrs. Lindsay & Blakeston, Philadelphia. This is a valuable English reprint, and with *Braithwait's Retrospect*, furnishes a full view of the progress of medicine in Europe to the American physician.

We regret that we have failed to receive the first number for 1857.

Braithwait's Retrospect for January last was received and noticed. The July number has not yet come to hand.

Either of these can be obtained, the *Ranking's Abstract* of Lindsay & Blakiston, Philadelphia, and *Braithwait's Retrospect* of Stringer & Townsend, New York for two dollars per annum, or one dollar each number.

The September number of the *British and Foreign Medico-Chirurgical Review* has been received, full as usual of well written reviews and scientific essays. It is reprinted by S. S. & W. Wood New York, at three dollars per annum—which is two dollars less than the English price.

Ducktown Copper Mines.—During the last month we had the pleasure of making a visit to those famous copper mines. The object of our visit was to explore certain property in what is called Fighting Town, and the result of our examination is contained in a report which we have submitted to those under whose instruction the survey was made.

We have not since 1854 been in that region, and we were surprised at the extent to which operations had been carried. It is an evidence of the immense value of these mines. A new Company—styled the Mobile Company, had opened and were successfully working a new mine in Fighting town, having reached the yellow sulphuret of copper at a depth of 65 feet—and that too without having been obliged to use a single blast. Their shaft had been sunk to a depth of 130 feet, and from 60 feet down only one blast had been used. This is an evidence of the ease with which the ore is mined at this locality. Extensive sheds have been erected—and a smelting furnace will soon be in operation. The company have refused to put any of their ore in market as yet, retaining it for their own works. We think they have acted wisely; it cannot be denied that much of the profits of mining is consumed in paying transportation on dirt and rock necessarily mixed with the ore. The Mobile Company have about 200 tons of ore all ready for the smelting furnace which will average 20 per ct. It is decidedly the policy of the Companies, to reduce all their ores to regulus yielding 70 per ct., before shipment. We saw some regulus at Ducktown which would yield 90. The 200 tons will yield on an average 20 per cent., which will be equal to 40 tons of pure metal, which is worth $600 per ton or $24,000.

At Ducktown we were struck with the devastation which is being made upon the vegetation of the entire district. It arises from the noxious fumes which are sent forth from the four smelting furnaces at present in operation, and if some remedy is not soon applied they will prove so destructive that the whole country will look like a waste. This might be effected by passing the smoke through condensing chambers so as to free the smoke of its poisonous qualities. As soon as we got within the atmosphere of the place we felt an oppression on our lungs similar to inhaling the fumes of an ill ventilated laboratory. There was noticed a great scarcity of game of all kinds.

At the time of our visit typhoid fever was prevailing fatally among the operatives and their families and though attributed to the too free use of beef—bacon being scarce—yet we could not

refrain from the belief that the fumes of the furnaces had something to do with it. It is worthy of investigation, and if true the remedy should by all means be at once applied. These mines are yielding handsomely, and the health and comfort of the operatives should be regarded as of the utmost importance.

Prof. Gibson and Crawford, the Sculptor.—The Journals contain long statements respecting this unfortunate affair. It seems that Prof. Gibson was called upon by Mr. Crawford's physician to investigate the nature of the disease of the eye under which he was laboring—and knowing full well that it would have an effect neither for good nor bad but would enable him to state correctly the nature of the disease, an exploring needle was pushed into the eye, when the tumor was found to be of a malignant character. Dr. Gibson *gave* his advice gratuitously, stating that he was not engaged in the practice but would cheerfully do all in his power to relieve his suffering countryman. Attacks have been made upon his professional character by Mrs. Crawford, stating that his exploration changed the disease from a benign one to a malignant. Dr. Gibson contradicts this, and adduces the evidence of Velpeau, Desmares, and Nelaton to prove that such could not be the case.

It is strange that a man of his enlarged experience and surgical skill should be called at his advanced age to defend himself against the charge of malpractice. But so it is.

Malpractice.—An exchange says "an action for malpractice was recently tried before one of the New York courts, in which the defendant's counsel urged the objection, "that an error of judgment is not malpractice." The court held this point to be good law when applied to a man skilled in anatomy, surgery or physics, but not in the case in action—the defendant knowing nothing of those departments, and therefore having no judgment in the matter. The court ruled that an error in judgment of a man skilled in a particular calling is not malpractice, unless it is a gross error ; but error in judgment of a man unskilled in that science (if such a thing can be) is malpractice. In other words,

a person attempting to practice, in physic or surgery, without first having obtained a knowledge of such science, is liable for all the damage that is the result of his practice.

Important Decision to Physiciaus.—Some three years since the Erie county (New York) Medical Society established a tariff, which fixed prices for services rendered to the public institutions of the county of Erie, below which it should be dishonorable for any member to accept office from the county. Their motive in this was to get rid of a competition unworthy of an honorable profession, and which had then resulted in the shocking condition of our public institutions which excited so much indignation at the time. The action of the society at this point was unanimous. Subsequently, Dr. John D. Hill, a member of the society, accepted the position of physician to the poor-house at a price below the minimum fixed. For this he was afterwards expelled; whereupon he applied to the Supreme Court for a *mandamus* restoring him to membership. The case was argued in May last, on the question whether the society had any legal right to establish such a tariff. Judge Mervin gives a written decision at length, that the society has no such power, and consequently issues peremptory *mandamus*, compelling the society to restore Hill to membership.

The society have thirty days in which to appeal. It is probable, however, that they will not do so, but take such other action as they deem necessary. The society is made up of the entire body of the "regular" profession in Buffalo, with many from the country towns, and has acted with great unanimity in these proceedings.

OBITUARY RECORD.

DR. JOHN S. YOUNG

Died at Nashville on Tuesday July 7. We extract from the *Patriot* the following truthful tribute to his memory: "Few men have been more sincerely respected and beloved. He came here from McMinnville many years ago to take up his residence in our midst as Secretary of State, an office to which he had been elected by the Legislature, and the duties of which he discharged for some years under both democratic and whig administrations, in a most satisfactory manner, retiring with the esteem and confidence of all parties. Continuing his residence here, he becomes more generally and familiarly known as a physician. In the time-honored profession of medicine, he ranked high; and in its practice developed those sterling traits of human nature which always command regard and affection. In very truth it may be said of him, "he went about doing good." No appeal to his kindly sympathies ever went unheard or unheeded. In this respect he was one of the most unselfish men in the world. He seemed to be constantly seeking to advance and promote the interests of others—especially to help along those who were seeking to better their condition, or struggling under misfortunes. There are many of this class amongst us who have lost in him a true and tried friend. He was cut down in vigorous manhood, and whilst most actively prosecuting his useful career; but not before he had won a name and position of which his family and friends may justly be proud. His funeral was preached last evening by Rev. Mr. READ, and in compliance with his instructions his remains will be taken this morning to McMinnville for interment. His widow and her fatherless children have the heartfelt sympathy and condolence of the entire community in their sad bereavement which, while it crushes their hearts, deprives our city and State of one of their most worthy and noble citizens."

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PART I.

ORIGINAL MEMOIRS AND CASES.

Art. XVIII.—*On Food, or Upon What Does Man Live.* By Prof Erni, Knoxville, Tenn.

Physiology teaches that the first conditions upon which animal life is dependent, are, nutritious matter and air, and furthermore, that the animal body during the whole period of its existence, continually loses (by respiration and secretion) material which must be replaced; otherwise it meets speedily with destruction. In other words, all our organs, tissues, etc., are from time to time destroyed by chemical agencies and are reproduced from blood, or indirectly, from food, (change of matter.) There remains a curious and unexplained fact, how even the substance of our brain may be repeatedly renewed without our loosing the capability of recollection.

The animal organism is absolutely incapable of producing elementary matter, such as carbon, nitrogen, iron,

lime, etc. Our body is, therefore, slavishly bound by the reception of material placed around us, which is supplied from the animal, vegetable and mineral kingdoms.

The process, by means of which those materials are converted within our system, into the most suitable form, and the appropriation of them for the development of our body, we call nutrition.

In our childhood, during the period of growth, the amount of nutriment received exceeds the expenditure of material; at a later period in life the process of nutrition and the more purely chemical process of respiration and secretion—striving to break down our body—hold each other in equilibrium, *i. e.*, the body does not change its weight. In old age the chemical process predominates, more matter is rejected, than is taken up; the blood is found to contain less solid matter, corpuscles, albumen, etc., the organism undergoes a kind of slow starvation, its functions cease aud inevitably death ensues.[1.]

From what we have said above it follows, that our blood, flesh, membranes, skin, hair, etc., all containing essentially, nitrogen, cannot be built up of food destitute of this element, (the atmospheric nitrogen taking no active part in the animal economy.)

Those nitrogenous compounds (such as albumen, caseine, fibrine) found in all proper food, have been called by Liebig *plastic* (sanguigenous) *elements* of nutrition, whilst the *non-nitrogenous* (such as starch, sugar, fat—only passing through the body) are termed *elements of respiration.* This class of compounds uniting with the oxygen introduced through the lungs in respiration undergo a kind of slow combustion and are discharged as carbonic acid and water (the ordinary products of combustion) by the lungs, skin and kidneys. This process is the source of animal heat.

Efficient nutriments must then possess a twofold character, they must contain blood-forming and respiratory matter.

The young animal lives entirely on milk; this liquid must be perfectly fitted to sustain life and is therefore considered the standard of food. The same is found to be the case with the egg, which contains everything necessary for the support of the growing fowl, some air being absorbed through the shell.

Speaking of animals generally, we find that the organization of each kind corresponds to its prescribed diet and mode of living; thus some are designed to live on vegetables, others on animal food only. Choosing here, as an example, only the higher mammalia, those approaching man, the structure of their teeth, etc., is in accordance with the nature of aliments upon which they are destined to live, and thus we classify them into graminivorous, carnivorous and frugivorous animals (monkeys;) man alone is truly said to be the only omnivorous creature.

Let us next endeavor to answer the question, upon what does man live?

The Gaucho, who in the great pampas of Buenos Ayres lives by catching (with his lasso and bolas) wild cattle, consumes daily from 10 to 12 ℔ of meat and considers it a great treat, when he accidently comes in possession of some vegetable food; whilst, on the contrary, the Irishman has to be contented with a meal of potatoes, and feels lucky when at intervals he gets hold of a fish, or a piece of meat. Here we see the Greenlander in his cabin almost burried in ice and snow, feeding on seal and whale's oil. There we find the indolent negro sucking his sugarcane and feeding on plantains; or the wayfaring Spaniard eating his onion together with an humble crust of bread.

In the meantime the industrious Chinese brings his well fattened rats and dogs to market; whilst the African traveler crossing the sandy deserts, carries along his bag of dates, often his only food for weeks. Again the shepherds of the Alps are obliged to live for months on milk and cheese; whilst the Hindoo loads his stomach with so vast quantities of rice as to frighten a European. Thus a traveler, passing from country to country, and through various climes, finds the "DAILY BREAD" made up of different materials.

But the thinking man asks: Can this our earthly and changeable tabernacle be really built up in such manifold ways and from the most different materials; or, are there in all the varieties of food certain similar or identical constituents?

Science has answered this question satisfactorily, for chemical analysis, has established the remarkable fact that all nutritious vegetables contain compounds corresponding, if not identical in composition with those nutriments derived from animals, with this difference that in the latter we find generally the blood-forming (plastic) elements prevailing, whilst respiratory matter predominates in the former.

Among the nitrogenous constituents of animal origin we reckon: fibrine, albumin and caseine, and we are likewise acquainted with a vegetable fibrine, albumen and caseine.

Thus if we boil the clarified juice of cauliflower, asparagus, turnips, etc., a coagulum is formed, which cannot be distinguished from the substance produced by boiling the serum of blood, or the white of an egg, previously diluted with water. This is *vegetable albumen.*

If wheat flour be placed upon a sieve and worked with

the hand under a stream of water, a white sticky mass remains upon the sieve, which is *vegetable fibrine* (gluten.) The same substance is precipitated, if grape juice is alowed to stand for some time.

Another nitrogenized substance, the *vegetable caseine,* is chiefly found in the seeds of peas, beans, etc., which like the veg. albumin is soluble in water, but does not coagulate by heat. By boiling the solution the albumin separates on the surface in the form of a skin, and if we add a drop of acid a precipitate is formed similar to caseine of animal milk. These three nitrogenized constituents occur in smaller or larger quantities in all vegetables, suitable as food for graminivorous animals.

These brilliant discoveries of modern chemistry render the process of nutrition in animals very simple and account readily for the formation of their organs from such a great variety of aliments.

The food of carnivora is identical with their blood and muscle.(2.) Respiratory matter is obtained in the form of fat, always present, even in lean flesh.

The graminivorous animals receive in their food precisely the same compounds, on the presence of which the nutrition of carnivorous animals depends; for vegetable fibrine and animal fibrine, vegetable albumen and animal albumen scarcely differ even in form.(3.) We may say with Liebig, that the animal organism imparts to blood only its form, that it is incapable of creating blood out of other substances which do not already contain the chief constituents of that fluid. Either of these nitrogenous compounds may within the organism be converted into any of the others, (indeed blood fibrine has been changed into albumen by artificial means;) from the caseine in the mothers milk, the blood, muscles and albumen of the or-

gans of the infant are formed; on the other hand the mother who lives on bread and other vegetables produces from these not only the flesh and blood of her own body, but also the caseine in her milk.

Hence the doctrine of the vegetarians as to the supposed difference between vegetable and animal food is unfounded.

The inorganic constituents of our body, likewise essential for its preservation, must also be supplied in the food for as mentioned before our organism cannot create any of them. A certain amount of iron is necessary for our blood, kitchen salt for digestion, phosphate of lime to build up our skeleton, etc.

In its importance upon the animal economy phosphate of lime stands at the head of all other salts; we see rachitis when the system is unable to obtain the necessary quantity of bone-earth, or when (as during certain physiological processes, as pregnancy and dentition) a larger amount is consumed. We need only call to mind, that rachitis frequently if not always develops itself at the period of dentition, and that during pregnancy the consumption of phosphate of lime is so great, that but few traces of it can be found in the urine of pregnant females, and at this period fractures of the bones heal with difficulty, if at all. Indeed Chassot experimenting on birds, produced an artificial softening of their bones by feeding them with food containing little or no phosphate of lime. Even when children are fed on highly sanguigenous food, such as milk, meat or bread, there is apt to occur a deficiency of bone-forming matter, owing to a want of lime for converting all the phosphoric acid of these nutriments into the tri-basic phosphate ($3\ CaO,\ PO_5$) found in the bones. Lime is, consequently, in many cases, an excellent addition to food[4.] and is best given in the form of an aqueous solution.

Numerous experiments have shown, that aliments, in which either the plastic or respiratory matter is wanting or which are destitute of certain saline constituents cannot support life.(5.)

Dogs fed on sugar, starch or gum only, die of starvation almost as soon as others which were only supplied with water; even gluten, albumen etc., when given exclusively to the same animals, has not kept them alive beyond a few weeks.

Children are often injudiciously fed on diet composed chiefly of starch, tapioca, sago, arrowroot, etc., deficient of blood and bone-forming matter.

But few nutriments unite in themselves qualitatively and quantatively all the conditions, nor were they designed to make up for the expenditures of our system; hence the great importance of the principle in a dietetic and medical point of view, that our diet must be of a mixed and variable nature. By disregarding this law for any length of time the health of man will materially suffer.(6,) A natural instinct guides us in mixing and adjusting the several articles of food placed within our reach and is not confined to the individual, but is deep rooted even in whole nations and tribes. The cravings of our appetite for a particular kind of food, or the disgust exhibited when the same dish is placed again and again before us, are thus explained.

The Irishman mixes cabbage with his potatoes, the Englishman bacon with beans, or milk and eggs with rice. The Italian eats his maccaroni together with rich cheese, the German his humble rye bread with butter, the Swiss peasant his potatoes, with milk and cheese, &c.

When the proportion of respiratory matter is too small it appears (as in meat diet) that the system appropriates

sanguigenous matter to supply the animal heat, which a very great waste, since meat affords the worst source of heat, as will be seen from the following table from Gregory's Handbook of Chemistry.

To obtain the same amount of heat we must employ,

Fat	100 parts;	(respiratory food.)
Starch	240 "	" "
Cane Sugar	249 "	" "
Grape Sugar	263 "	" "
Spirits, (at 50 per cent. Alcohol) .	266 "	" "
Fresh lean Meat	770 parts;	(plastic food.)

Civilization has adjusted the proportion more properly by fattening cattle in the stall. Animals are thereby abundantly supplied with grain and so situated as to suffer from deficiency of oxygen. The conversion of starch, sugar, etc., into fat within the animal body (bees form wax, a real fat from honey) was for a long time doubted by some French savants, who pretended that the fat was not actually produced from starch, etc., but taken up already present in vegetable food &c. Chemical analysis has fully cleared up those doubts, at the same time, however, established the fact, that some admixture of fat (if not already united with the food) must be made to starch, sugar, etc., in order to change them into fat; for hogs, ducks, etc., fed with such articles and destitute of any fat, could not be fattened. It appears that a little fat acts like a ferment on starch, etc., and causing this peculiar metamorphosis.

The following table taken from Liebig's Chemical Letters exhibits the relative proportions of plastic and respiratory matter in various kinds of food, all the respiratory ingredients, for the sake of comparison, being calculated as starch (10 parts of fat are calculated as an equivalent to 24 parts of starch.)

	PLASTIC.	RESPIRATORY, (AS STARCH.)
Cows milk contains for	10	30 { 8.8 fat, and 10.4 milk sugar.
Human Milk	10	40
Lentils	10	21
Horse beans	10	22
Peas	10	23
Fat mutton	10	27—11.25, fat.
Fat pork	10	30—12.05, "
Beef	10	17— 7.08, "
Hare	10	2— 0.83.
Veal	10	1— 0.41.
Wheat flour	10	46
Oatmeal	10	50
Rye flour	10	57— 8.00
Indian corn	10	57
Barley	10	57
Potatoes, (white)	10	86
Potatoes, (blue)	10	115
Rice	10	123
Buckwheat	10	130

Here we perceive that milk and grain, the two model nutriments, contain for 1 part of plastic, 3 to 5.7 respiratory matter.

When the food contains too little plastic food, enormous quantities have to be consumed to supply the waste of matter. Thus it will take 123 parts of rice to supply as much tissue as 33 parts of fat pork, or 125 parts of blue potatoes to yield as much tissue as 27 parts of beef.

The Chinese, who lives on rice, the negro who lives on the plantain, and the Irishman who lives on potatoes show by their corpulency and shape on what food they respectively live. Of course the greater part of surplus respiratory matter will not be assimilated and consequently wasted. Speaking of mankind at large, it is surprising to witness, how often the very man proceeding pretty correctly in compounding food for raising his stock, commits the greatest errors in the admixture of food designed for himself and family. Many a poor laborer, living almos exclusively on potatoes, rice, etc., would think it strange if he was told that his humble fare costs him

from 3 to 5 times as much, as the better mixed and more appropriate meal of the more wealthy man.

Experience teaches, that a working man needs on an average, for his daily support, about 11 ounces of respiratory and 4½ ounces of plastic food; from whence it follows, that he requires per day according to Scheibler:[7.]

4	pounds	rice.	
15	"	potatoes.	
3¾	"	bread.	
1½	"	"	and 8 pounds of potatoes.
1½	"	"	2 pounds potatoes and 11 ounces of meat.
1¼	"	"	9 ounces peas and 4 ounces meat.
1½	"	"	and 18 ounces of beans.
1½	"	"	and 20 ounces peas, etc.

The amount of bodily or mental work any man performs, is measured by the daily waste of the tissues, muscular or nervous, etc., the place of which must be supplied by proper diet, if a maximum amount of work is to be performed, or health is to continue.

A different latitude will materially alter our wants. In a cold country health would suffer by feeding on fruit and similar vegetables, whilst the use of much bacon and other fat are unsuitable food for a southern clime; moreover, it is an easy matter to become a moderate eater at the South, but cold and hunger combined, the body cannot long endure.

Difference of climate, and with it change of diet and mode of living, will likewise modify the temperament, vary the beauty of feature and influence the national character of man; thus, hard labor, scanty and coarse food produce rude looks, whilst ease and good living is conducive of more elegant features, destroying almost difference of cast as exhibited in the United States.

It would also appear that those nations and tribes, living more on vegetable food, as the Hindoos, Chinese and inhabitants of the South Sea Islands, are a very meek and patient people, exhibited even in their peculiar mode

of handicraft (such as shawl-weaving, inlaid work, etc.) But at the same time, it would seem as if such diet were not adapted to develop that energy and bold activity of mind observed in nations consuming mostly animal food.

Indeed man remains only an incomprehensible being as long as we consider and estimate him as isolated from nature, whilst as connected witn the Cosmos, he may be regarded as a product of nature, whose life and actions are a thousandfold interwoven in the life of nature of which he nevertheless remains lord and master.

But now comes the critical philosopher and informs us that man lives on nothing but air; for, says he, plants derive their food (with the exception of a little inorganic matter) from the air; animals obtain theirs directly or indirectly from vegetables—*ergo*, man lives on air.

This reasoning, we must acknowledge to be correct; but we who happen to live in a rather material age, will leave this airy dish to dyspeptic philosophers and happy lovers to feast upon.

NOTE 1, p. 236.

Taking as a comparison, the bodily weight of the new-born infant equal to 1., the following numbers express the relative weight of the body during its various stages of development: (C. Vogt's Physiologische Briefe.)

YEAR.	MAN.	WOMAN.	YEAR.	MAN.	WOMAN.
0	1.000	1.000	14	12.113	12.612
1	2.953	3.021	15	13.631	13.872
2	3.544	3.667	16	15.522	14.973
3	3.897	4.052	17	16.516	16.258
4	4.447	4.467	18	18.078	17.536
5	4.928	4.935	20	18.769	17.966
6	5.388	5.498	25	19.666	18.310
7	5.969	6.028	30	19.891	18.670
8	6.488	6.557	40	19.897	18.980
9	7.078	7.340	50	19.831	19.299
10	7.663	8.083	60	19.357	18.660
11	8.469	8.815	70	18.600	17.701
12	9.319	10.246	80	18.072	16.966
13	10.744	11.320	90	18.072	16.955

In old age man becomes also shorter and even the dimensions of his skull are lessened, and his mental faculties impaired.

NOTE 2, p. 239.

Gelatine containing nitrogen but differing in composition from the albuminous compounds is not capable of producing blood and if available at all by the system can only form membranes.

NOTE 3, p. 239.

This whole group of bodies are generally composed in 100 parts of 55.16 carbon; of 7.05 hydrogen; of 21.81 oxygen and of 15.96 nitrogen, together with small portions of sulphur and phosphorous.

No rational formulas of these compounds can be given, for we are entirely ignorant of their proximate componant parts and since the overthrow of Mulders Protein theory no other has been advanced in its stead.

Some chemists consider all these bodies as isomeric modifications, whilst others owing to their peculiar chemical and physical properties, believe them to be distinct and different compounds, like the members of the carbo-hydrogen series (starch, sugar, gum,) which, in spite of their equal percentage composition and although they may be partly converted into one another, are still described as distinct bodies.

NOTE 4, p. 240.

Liebig's improvement in the preparation of bread in Allgemeine Zeitung, 1854.

NOTE 5, p. 241.

A certain amount of water is also required, for animals perish likewise if their food is by artificial means deprived of water, and for the above mentioned reason the inorganic salts (lime, etc.,) with which this fluid is impregnated, cannot be considered mere impurities but are often promotive of our comfort and health.

NOTE 6, p. 241.

In our civilized state of existence it becomes moreover of great importance to render our food palatable and to impart to it such a form as to admit of more easy digestion; this aim is accomplished in the art of cooking.

NOTE 7, p. 244.

The articles we use as food contain generally large quantities of water, thus in 100 pounds of the following nutriments we have:

Meat (mammalia)	77 pounds water.
" (fishes)	80 "
Wheaten bread (baked)	45—48 "
Cheese (Swiss)	28 "
Egg (without shell)	57 "
Beans	13 "
Peas	13—19 "
Wheat flour	14—16 "
Indian corn meal	14 "
Potatoes	75 "
Carrot	83 "
Turnip	90 "
Rice	14 "
Plantains	73 "
Apples	80 "
Onions	94 "
Water melon	94 "

It ought then not to surprise us much to see a man eat an entire fifty-pound water melon!

PART II.

MONTHLY MEDICAL RECORD.

CHEMISTRY AND TOXICOLOGY.

1. *Report on the Recent Contributions of Chemistry to the Medical Profession.*—(Read before the Pathological Society of Baltimore, June 16, 1857.)—By Dr. Lewis H. Steiner.—The contributions, which chemistry has made, during the past year, for the elucidation of subjects of interest to the medical man, are quite numerous. The department of study presents so many attractions to the energetic and faithful students, that, with each year, we find the number increasing, and the facts they accumulate becoming of great interest to the physician. It is true that we are not able, at the present time, to simplify the immense mass of material that has been collected in organic chemistry, yet this fact should stimulate the student to renewed exertion. When the induction can be made from a sufficiently large number of particulars, we have the right to believe that simple laws of combination will present themselves, and that the mass, *rudis indigestaque* though it be, to a great extent, at present, will arrange itself like particles of some beautiful crystal in exact relation to certain axes and assume the symmetric outline of regular geometric forms—or rather, that they will show themselves to be parts of a science, not only concerned *with* that which is organic, but *itself* an organism, in which each fact bears a vital relation to the whole series, and is meaningless when separated. Such a belief must stimulate the student to continual exertion. The analogy derived from other branches of science, from even the inorganic portion of chemistry itself, justifies him in the anticipation that all the various facts connected with organic chemistry, will be intelligible when the real character of the simple laws, which underlie them, is understood.

In looking over the mass of material which the journals have furnished us during the last year, the writer despairs of succeeding in presenting even a summary of all the new facts and appli-

cations, interesting to the physician, which have been announced by chemists. An effort will be made to present such as seem to have special practical importance. These have been grouped under four heads: I. Physiology and Pathology. II. Materia Medica and Therapeutics. III. Toxicology. IV. Hygiene.

I. PHYSIOLOGY AND PATHOLOGY.

The subject of the so-called glucogenic function of the liver has been brought before our state faculty in the two last reports on chemistry, and the arguments advanced by Bernard and Lehmann in favor of the theory, with those of Figuiér and Longet against it, have been given at sufficient length. It may, however, be not uninteresting to state what are Bernard's views with regard to the uses of sugar in the animal system.* He opposes the old notion that its principal use is for the support of animal temperature, which *is* developed largely by the destruction of the sugar, and holds, on the contrary, that the largest amount of heat is degenerated during its formation in the liver, as is shown by the temperature of the blood in the hepatic veins being greater than that of any other portion of the body. The main use of sugar in the animal economy, in his opinion, seems to be as an essential agent in the development of organic cells. Hence he endeavors to prove that, at the period, when his development is proceeding with greatest activity, during the uterine existence of the fœtus, sugar is most easily to be detected. His results have been collected by a reviewer in the Medico-Chirurgical Review, and they may be condensed as follows: "1. Both the muscular and pulmonary tissue of the fœtus, when exposed to the action of water, give up considerable quantities of lactic acid, while those of the adult furnish alkaline solutions. In the former case, the acid must have originated from the presence of sugar, and indeed it may be detected in those tissues by the use of Trommer's test. This remarkable condition remains, until the fifth month of uterine life with the calf, when it begins to diminish; and *when* the muscular elements are formed, *then* its production absolutely ceases. 2. Notwithstanding its easy detection in the tissues just mentioned, not a particle of sugar is found in the liver or any other glandular organ, until the period arrives when it begins to disappear in such tissues, and then it begins to make its appearance in the liver. 3. Until the fifth month of uterine life, the sugar resists its normal metamorphosis into lactic acid, but permeates the system in the blood vessels, makes its way into

* Med.-Chir. Review, xix, 21,

the urine, and the urine, accumulating in great quantity, fills not only the bladder, but the allantois, which communicates with it, and thus the allantoic fluid also becomes saccharine." It is also to be found in the liquor amnii. 4. Bernard also claims, that "its presence in the blood prevents the infiltration of that fluid into the tissues and promotes the circulation generally," and that in consequence of a species of viscous fermentation it undergoes, the liquor amnii acquires its peculiar glutinous character.

Now we know there is produced by the splitting up of an atom of glucose ($C^{12} H^{12} O^{12}$) two atoms of lactic acid ($C^6 H^6 O^6$); and the advocates of Bernard's theory hold that, as this process takes place in the laboratory upon the addition of some decomposing nitrogenous substance to a saccharine solution—being in fact established by the catalizing effects of molecular changes—it is but fair to suppose it may also result from such molecular changes as take place during the formation of nitrogenous compounds. But if we look at the many theories which exist with regard to the nature of catalysis, and consider that it is, at most, but a word employed to rid the puzzled chemist of the difficulties which arise concerning certain changes, we shall see how difficult it is either to confirm or disprove any such theory. The whole subject of the changes to which sugar is liable in the animal system, and wherein a *sufficient* cause exists for the explanation of its conversion into lactic acid, still seems to be one open for much study before we can arrive at undoubted conclusions. The theory however of Dr. Pavy, just given, is highly ingenious, and commends itself to our consideration as the most plausible yet advanced on this interesting subject.

M. Baudrimont* of the Ecole de Pharmacie has noted the fact that in a case of diabetes, of six years' standing, the amount of sugar varied from 30 grammes in the litre, down to a mere trace, depending upon the period of the day when the urine was voided, and the largest quantity was present a few hours after dinner, but that, after 12 or 14 hours had elapsed, only a slight trace could be detected in the urine. Thinking it might be important to see what effect a large amount of sugar taken into the stomach would have on the amount found in the secretion, he commenced taking large quantities of syrup daily—as much indeed as 500 grammes—near 8,000 grains troy. He was forced to relinquish the experiment, however, in consequence of the extreme disgust occasioned by the use of so large an amount of sugar, and the severe pain which it produced in the lumbar regions.

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* Journ. de Chim. Med. ii, 69.

By means of experiments similar to this, much may be obtained that will elucidate this subject. The glucogenic function of the liver is an established fact now in physiology, but the laws which control its action are by no means perfectly understood, and years of patient, toilsome investigation will be required before a theory, sufficiently comprehensive to embrace all the phenomena of glucogenesis, can be formed.

The subject of the chemical nature and properties of the fatty matters of the bile has been re-examined lately by M. Gobley.* He undertook a series of experiments to test the truth of the opinion that the fatty matter of the bile consists of cholesterine and some fat acids in combination with soda. These experiments were exceedingly singular, and brought their author to the conclusion that the fat acids, which we obtain from the bile, do not pre-exist in it, but are the products of decomposition. Indeed, although bile, when after some days it begins to give off an unpleasant odor, may exhibit an acid reaction, and being agitated with ether, will yield up to it cholesterine and fat acids, yet fresh bile, according to M. G. will not furnish such results. Oleic and margaric acids are the results of the *dedoublement* of *lecithine*—a neutral substance first discovered by Gobley† in the yolk of an egg—under the influence of chemical agents or of putrefaction. Olein, margarin, cholesterine, and particularly lecithine, are always found with the constituents of the bile. We have no right to uphold the theory that the bile is of no special utility, when once formed, to the system, since, whenever it comes into contact with the intestines, its fatty constituents are speedily absorbed, so that but a small quantity is found in the excrement. Gobley draws the singular conclusion that an animal, deprived of the presence of these fatty substances in the bile, would really soon suffer from their removal, and would require the introduction of a large proportion of healthy and substantial food to compensate for such deprivation.

The presence of starch corpuscles in certain secretions of the body has been claimed as proved in some cases published within the last few years in the journals. Virchow has‡ investigated this subject apparently with great care. The substances supposed to be amylaces are not of that character in many instances, as the failure of the characteristic iodine test clearly shows, but amyloid degeneration *does* take place, in his opinion, and it may

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* Journal de Pharmacie et de Chimie, xxx, 241.
† Lehmann's Phys. Chem. II, 360.
‡ Medico-Chirurgical Review, xvii, 415.

be found in the nervous system, in the spleen, in the waxy degeneration of the liver, and in the kidneys. The affection in the latter organs first shows itself in the malpighian bodies and the arteries leading to them; after which the areolar tissue near the urinary tubes of papillæ is affected, and then the whole viscus. The starch grains are called, by Carter, of Edinburgh, the thermogenic magazines of the body—matters which are by no means to be considered as of pathological, but rather of physiological importance—and are to be looked upon as capable of possible conversion into sugar and lactic acid in the system. He saw them in "a tumor involving the optic nerve," in the liver, spleen, kidneys, brain, mesentery, lungs, ovaries, scrofulous matter, pus, urine, epidermis and blood. The first announcement of the discovery of this substance, which had always been considered as essentially vegetable in its origin, was received with much hesitation and doubt, but the careful examinations of Virchow and Carter demand from us respect if not absolute credence. They show how rudimentary, as yet, our knowledge of pathological chemistry is, and stimulate every faithful student of the science on in his career of investigation. If the albuminous substance of tissues may under certain circumstances, however inexplicable they may seem to be now, be replaced by amyloid substances, in one case existing as starch, and in another as cellulose, surely the therapeutic requirements in all such cases are exceedingly obscure. The substitution must proceed from constitutional causes. Virchow says that the tissues thus affected are indurated, enlarged, and exhibit a waxy or lardaceous appearance. Wherever cellulose has been found, "chronic and extensive diseases of the osseous system existed; and this species of disease seems to deprive certain of the secretions of their natural elements, and thus to insure the production of this substance.

In the chemistry of digestion some important additions have been made to our knowledge, by a series of experiments performed upon Alexis St. Martin, whose case is celebrated in the history of physiology, from the experiment made many years ago by Dr. Beaumont. It was right that the opportunity of witnessing the various stages in the process of digestion, presented by this case, should have been again used by scientific men, with the lights of modern science aiding them, so as to clear up, as far as observation ever can, this important process of the living organism. Prof. Smith, of Philadelphia,* aided by Prof. Robert E. Rogers, has accordingly repeated Beaumont's experiments, with

* Phil. Med. Examiner; Chemist, iv, 228 and 305.

regard to the nature of the acid contained in the gastric jnice, and its influence upon different kinks of food.

In every instance this fluid, when obtained *during* the process of digestion, was *acid*, although it was entirely *neutral* when obtained from the stomach *after* the process had been completed. This accords with results of the experiments made upon the same individual in 1833–4. It was then asserted that this acid reaction was due to the presence of hydrochloric and acetic acids, and the former was supposed largely to preponderate over all other acid bodies that might be normally or abnormally present. Modern investigations have led Lehmann and others to believe that this was an error, and to attribute to lactic acid all the peculiar acid indications of the gastric juice. The peculiar effect which was produced on a solution of nitrate of silver, by the distillate of the gastric juice, was formerly attributed to the presence of hydrochloric acid. Lehmann, however, insisted upon it that the lactic acid present decomposed some chloride of sodium, and hence the vapors which were given off contained chlorine, and these, when passed into a solution of silver, would necessarily form chloride of silver. It was certainly a matter of the highest importance to test the accuracy of the latter chemist's views in the case, which had given strongest support to the opposite theory.

As in previous experiments, the gastric juice was found to be *decidedly* acid, and the microscope showed it to exist, during the digestion of bread, of "epithelial cells, mucous corpuscles, amorphous granular matter and starch granules, some broken down, others perfect, together with a few cells of cylinder epithelium." The product of meat digestion gave, in addition to these, "oil globules in great abundance, and transversely striated muscular fibres, in some of which the sarcolemma was softened and ruptured, and the sarcous elements just liberated" without the presence of starch granules. These products, being freed as much as posible from the solid matters they contained, were then subjected to careful chemical examinations, and the following conclusions deduced:

"1st. That the secretions of the stomach when digesting are invariably acid.

2d. That the acid reaction was not due to the presence of phosphoric acid.

3d. That *if* hydrochloric acid was present, it was in very small quantities.

4th. That the main agent in producing the characteristic reaction was *lactic acid*."

With regard to the quantity of free acid, no conclusions are

given which would lead us to doubt Lehman's position,* that it is as variable as that of alkali in the saliva. Its formation in the case of vegetable diet can be clearly accounted for, through the metamorphosis of amylaceous or sacharine matters, similar to that which takes place in the acetification of milk. More difficulty is presented, however, by its normal appearance in the gastric juice, during meat digestion, but we are not prepared to deny that it may not result in some way from changes produced in proteinaceous or gelatine compounds; indeed, Lehmann† considers that "there would be nothing incongruous in assuming, that in the natural metamorphosis of creatine in the animal body, where no sarcocine is found, the creatine is still decomposed into urea, but that, in place of sarcocine, there is an abstraction of water, and lactic acid and ammonia are formed," and hence, as the presence of this acid in the form of alkaline lactates may be presumed in the blood, its presence may be accounted for in the secretion of the gastric juice itself.

The second question considered by Prof. Smith was the action of this juice on the various alimentary substances, as divided by Prout into *albuminous*, *amylaceous* and *oleaginous*. Mialhe's views with regard to the action of the juice upon the nitrogenized articles of food, that not only was albuminous matter dissolved by it, but was converted into a substance called peptone (albuminose), or as some say substances designated as peptones. Positive examinations, through the use of artificial fistulæ in the stomachs of animals, showed, indeed, that all the protein and gelatine portions of food were converted into *such* albuminose compound, which, as they do not differ in chemical constitution or physical properties, but only as regards their solubility in water and dilute alcohol, may be considered illustrations of organic allotropism. Furthermore, these peptones are capable of ready absorption, which is not the case with the substances from which they are formed.

The examination of this second question resolved itself into a consideration of the different classes of aliment; and as both albuminous and oleaginous matters are found in meat, the experiment was conducted with the use of rarely done beef steak. After two hours had elapsed, the liquid, resulting from the digestion of the meat, was examined, and notwithstanding an exposure to active ebullition, it presented *no* marks of coagulation. The same result attended the use of strong mineral acids when

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* Lehmann's Phys. Chem., ii, 44.

† Lehmann, i, 102.

cold, although when boiling hydrochloric acid was employed, the purplish hue of protein bodies was produced. This was satisfactory with regard to the presence of albuminous substances, although these refused to yield indications of presence to the coagulating tests. It was fair also to conclude that "a portion of the dissolved material had doubtless been absorbed," so that we can understand how the lactic acid of this juice, along with these peptones, passes into the circulation.

The oil globules were recognized in the liquid taken from the stomach, and had evidently not been altered chemically but had only undergone such physical changes as would insure their disaggregation into exceedingly minute globules.

The action of the juice on *amylaceous* food was not quite so satisfactory as some other results of this examination. It would have been specially interesting to have examined into the amount of lactic acid present, when this class of food alone was used, as compared with that present in the case of meat. No quantitative determinations, however, were made, although we learn that, in 2½ hours after deglutition, starch granules were readily detected by the iodine test, and Trommer's test gave satisfactory indications of the presence of glucose, into which the starch had been converted by some catalyzing substance. What is singular, however, is the conclusion that the gastric juice does *not* interfere with the glucogenesis, as has been supposed, and that this latter process will take place *without* the presence of the saliva. Bread was moistened with water, and then introduced into the fistulous orifice of the stomach, care being taken to avoid the flow of saliva down through the œsophagus. The same effects in kind, though not in degree, were detected as when preliminary mastication of the food had been employed—that is to say, there were traces of starch and decided manifestations of the presence of sugar. The saliva thus is deprived of what was thought to be its peculiar and special province, the metamorphosis of starch into sugar, and this seems to result from a variety of catalysing agents in the human system exactly as it does without.

Poggiale has been examining into the chemical composition and nutritive equivalents of the food of man,* and his researches are of so much practical importance that it is left to be demanded, as it were, that they should be included in this report. The first portion of these researches, which considers the aliments furnished by cereals and leguminous plants, has already been

* Journal de Pharmacie et de Chimie, xxx, 180 and 255.

published, and the student of hygeine awaits the appearance of the continuation of the researches with much interest.

The cereals and leguminous plants furnish substances as aliments, which contain "water, mineral salts, cellulose, nitrogenous matters, both soluble and insoluble in water, fatty substances," and peculiar products, such as tannin and resinous matters. The author thinks that it has been already proven that food must consist of "plastic substances, fatty matters, salts and alimentary hydro-carbons." Three of these have been considered as necessary by every writer from the time of Prout down to the present, while the inorganic constituents have been overlooked. As each one of the four is necessary, there must be some ratio existing between them all, and we shall understand this best, when we have examined into the wants of the animal system. Then will the proportions of the saline, fatty, nitrogenous and hydro-carburetted matters contained by each article of food, enable us to determine what may be its value and what its deficiencies. The necessities of the body require that the food must contain at least an amount of saline matter, carbon and nitrogen equivalent to that which is thrown off during the 24 hours. In case any of these should be deficient, there will be injury to health, unless some other aliment is added in order to make up the deficiency. Between the amount of carbon required and that of plastic material, there is the ratio of four to one. Poggiale, however, insists that we must not depend alone upon the theoretic results arising from chemical investigations, but must permit them to be controlled by the practical, because much depends on "the strength, cohesion and digestibility" of alimentary substances. Meat is a more nutrient aliment than white of egg, gelatine will not support life as well as meat, and we cannot substitute one article of food for another without keeping in view the capability it possesses of producing the same or different physiological effects. The quantities of the various aliments, however, which are capable of producing like effects, constitute what Poggiale calls *the alimentary equivalents.* The necessity of considering the physiological effects is shown in the fact that if we were to take *one article of food alone* as the source of the four different materials, three of them would generally be present in improper quantities, being either greatly too large or too small. This is shown when we take nitrogen, for example, as the important agent, and bread as the source. There would be required 1,850 grammes of bread to furnish the proper amount of nitrogen, and an immense amount of carbon would be taken into the system, which would have no other effect than that of debilitating the

whole digestive apparatus. But if we were to take carbon as the important agent, and meat as the only article of food, each adult would be obliged to consume three kilogrammes, in order to obtain fuel enough for the preservation of animal heat, and the superabundant amount of nitrogen thus taken would injure the whole system.

Poggiale thinks that larger proportion of matters, which are nonassimilable in bran, justifies its removal from flour. He does not think, however, that bran is useless, but considers the removal of 20 per cent. as quite enough. The value of bran especially, with him, is a means of retaining the assimilable portions of flour longer in the stomach, permitting a more thorough digestion, and augmenting the amount of fecal matter, so as to render the digestive functions *plus facilies et plus regulières.*

COMPOSITION OF VARIOUS VEGETABLE ALIMENTS.

	Wheat.	Rice.	Barley.	Oats.	Rye.	Corn.
Nitrogenous matters .	14.40	7.80	10.665	11.254	8.790	9.905
Starch ad dextrnine	63.30	74.47	60.330	61.850	65.533	64.535
Fatty matters . .	1.90	0.235	2.384	6.108	1.992	6.680
Fixed matters .	1.70	0.320	2.623	3.085	1.772	1.440
Lignine . . .	4.20	3.445	8.779	3.460	6.383	3.968
Water . . .	14.50	13.730	15.229	14.243	15.530	13.472

Omitting what the author has said on the first of these grains, we find that he draws some important deductions as regards the other five. Rice contains so little of the nitrogenous, saline and fatty matters, that to make it at all adapted for animal support, it must be accompanied with articles rich in these substances, such as meat, fish, milk, &c. 550 grammes of it would be required to substitute 250 of meat, and would then contain so large an amount of carbon as to do injury to health. Barley, although a better material, yet in consequence of its nitrogenous matter being in the condition of albumen, it is impossible to be converted into bread. Rye is less nutritious than wheat, but furnishes a bread which remains sweet for a longer time. Indian corn, in consequence of the large amount of oily matter it possesses, in addition to other necessary constituents, is one of the most nutritious substances used for food.

The chief of the hospital at Luneville,* M. Saucerotte, considers the frequency of constipation in the present day, as due

* Jonrnal de Chimie Medicale ii, 232.

to the bolted flour which is now universally employed by the bakers. He shows that our flour is occasionally bolted until as much rs 25 per cent. is removed.

M. Mouriet's* views on the value of the presence of bran in bread lead us to believe that it mostly depends on a peculiar nitrogenous principle, which possesses the property of liquefying starch, and converting it into sugar. Saucerotte does not enter into discussion as to the truth or fallacy of this theory, but simply insists upon it that the use of bran bread does aid the evacuations, without having the disadvantages possessed by medicines, as it does not fatigue the digestive organs, and never loses its efficiency by habit. He humorously styles the process of bolting, a measure of luxury and not one of hygiene. The effects of the celebrated Germen *pumpernickel* on the digestive organs of the Westphalians, where dyspepsia and constipation are unknown terms, show what is the value of bread which is manufactured from flour entirely undeprived of the bran. If we conjoin to Saucerottee's views those of Mouriet, there will be formed a strong argument adverse to the entire removal of the bran from our flour.

The chemistry of respiration has been very carefully examined during the last five years, and a review by Harley† of what is positively known on this subject, published during 1856, puts us in possession of a clear account of the extent of the contributions made by chemistry to our knowledge of this important organic function. Some important corrections of old errors are made in this review, a few of which it may be interesting to notice here.

Oxygen gas has been found existing not only in the arterial, but also in the venous blood, and carbonic acid has been detected in both. This is contrary to the old notion that these gases were restricted to the different kinds of blood. Magnus considers this fact as proving that oxygen exists in the arterial blood, *not* in chemical combination with it, but as mechanically united; the writer feels inclined to coincide with Mr. Harley in believing that this fact only shows that the blood has not *unlimited* power of combination with oxygen gas, and hence the superabundant quantity of the latter would be found only mechanically present. Blood can absorb one and a half times its volume of carbonic acid gas, and but one-tenth of its volume of oxygen. This proves clearly that to get enough of oxygen into the arterial

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* Transactions of the Med. and Chir. Faculty, 1855.

† Medico-Chirurgical Review, xviii, 321.

system for the uses of the animal economy, there must be chemical combination as well as mere mechanical mixture. Mr. Harley, by various experiments in Bunsen's laboratory, has succeeded indeed in demonstrating that the oxygen of the air *cannot* be brought into contact with blood without entering into " chemical combination with one or more of itsconstituents."

Valentine and Lehmann have shown that the amount of urine excreted in a day depends upon the amount of nitrogenized food taken, it seems to be a fair conclusion that some of the oxygen in the blood combines with the hydrogen of the ingesta, and thus water is formed, through the oxidation of nascent hydrogen. But if this be so, then we should have a larger quantity of urine discharged, as a general thing, than the quantity of water or other fluid taken into the system. That this *is* so, the writer is not prepared to admit, although Böcker asserts its truth, and states, " that if 1.260 grammes of liquid be taken, 2.921 grammes of urine will be passed; if 3.360 grammes be taken, 4.994 grammes will be passed in 24 hours."

The blood is then oxydized not only by the combustion of its carbon but also of its hydrogen, and besides there are other oxidations in the blood, which may be preliminary to the formation of secretory and excretory products. The superabundant nutritive material which is taken into the blood vessels during digestion is always excreted before it has become tissue, and this may be due to the active agency of oxygen under the controlling and directing influence of vitality. Indeed, in this way we are able philosophically to account for the enormous amount of carbonic acid gas which is daily thrown off from the lungs, than by the old theory that it *all* resulted from the oxidation of effete portions of tissues in the capillaries. We do not see even how such an hypothesis would militate against the old notion, that the capillaries were " the furnaces of the system," as Townes* not inaptly styles them. *There*, the greatest amount of animal heat must be generated, but as every chemical action (and who can tell how many such take place in the system ?) is accompanied with the loss or absorption of caloric, each must contribute or abstract something from the quota of the whole.

Harley further shows that the pure coloring principle of the blood " by exposure to the air, gives off carbonic acid gas, and becomes oxidized in two ways—firstly, by a loss of carbon; secondly, by direct combination with the air." This by analogy we can understand, as in animals where the circulating medium

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* Actonian Prize Essay, 100.

is employed the absorption of oxygen and the elimination of carbonic acid, the blood is highly colored, and in the plant, coloring substances are always most abundantly found where respiration is carried on, i. e, in the leaves. If this be true, then the coloring matter of the blood corpuscles has more to do with respiration than the iron which they contain.

II. MATERIA MEDICA AND THERAPEUTICS.

The contributions of chemistry to these departments have been, as usual, very many and interesting. The writer will endeavor to present such as seem to be most important in a practical point of view. Prominent among these may be mentioned the experiments of Poggiale* with reference to the action of alkalis on sugar in the animal economy. The sugar which appears in the system, whether furnished by the food or formed by the liver, never presents itself in any normal secretion. It is employed as one of the materials used in the production of animal heat. The decomposition may be represented, according to some chemists, by the formula $C^{12} H^{12} O^{12} + O^{24} = 12\ HO + 12\ CO^2$; or according to others, the sugar is removed by the action of alkaline carbonates, which insure the formation of alkaline lactates, that are then decomposed into carbonic acid and water. In accordance with this latter view, the existence of diabetes depends on a deficiency of alkalinity in the blood, which permits the non-destruction of some of the sugar. Poggiale's experiments were directed towards the investigation of this theory.

Dogs being fed on meat for some days to which bicarbonate of soda had been added, were afterwards killed, and the blood of the crural artery, the vena cava inferior, the hepatic veins, and the liver was examined, but in no case was any diminution in the quantity of sugar detected, and the amount noticed was the same as that found in dogs that had been fed on meat alone. When the same animals were fed on amylaceous or saccharine food, mixed with the same alkali, it was demonstrated that sugar could exist in the blood and even in the urine, notwithstanding there might be large quantities of alkaline salts present. When glucose was injected, along with bicarbonate of soda, into the jugular vein of a rabbit, even this did not prevent the appearance of sugar in the urine, although the injection of tartaric acid seems most frequently to prevent its appearance.

Poggiale has also studied the action of alkalis and their carbonates on glucose *out* of the system, with results as follows:

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* Journal de Pharmacie et de Chimie, xxix, 179; Chemist, iii, 149.

When the temperature was at 90°, 140°, 176°, and even 194°, there was no change in color or character of the saccharine solution. When the alkali was present in large excess over the sugar then there was some small disappearanee of the glucose, on the liquid being exposed to a boiling heat for some time.

The results of these experiments show us that no confidence can be placed in the use of alkalis as therapeutic agents for the establishment of a healthy condition of the system, when sugar has begun to appear in the secretions. They certainly show that Mialhe's theory as to the cause of the disease, is not tenable.

As to the other two theories: Bourchardat's simply requires, in treatment, that a man should avoid amylaceous matters in his food, which course of diet we know will not stop the disease—and Bernard's requires that the liver should be attended to. M. Baudrimont,* without reference to theory, has been experimenting on the employment of brewers' yeast on the glucose in a diabetic patient, and the results are exceedingly curious if not valuable. The patient, a boy 11 years of age, had been treated, in accordance with the alkaline method, with no diminution of sugar, for over two months. At the beginning of the treatment, the urine contained 39 grammes of glucose to the litre. Brewers yeast was administered at first in 20 centigramme doses, and it was increased up to 2 grammes per day. On the fifth day symptoms of intoxication presented themselves, continuing for a few days and then declined, and the thirst declined at the same time. The intervention however of a severe illness, resulting in a serious effusion on the brain and death, prevented the issue of the treatment being noticed. Mons. B. however, is satisfied that "beer-yeast is capable of transforming the sugar of diabetic patient into alcohol." The writer is not indisposed to admit the probability of this theory as to the therapeutic action of the agent, but he has not sufficient credulity to admit the conclusions with regard to the supposed intoxicating effects in the case quoted.

Dr. Gray† of Glasgow, who adopts Bernard's theory as explaining some cases where the liver is the offending organ, as Bourchardat's as explanatory of others, where the stomach is at fault, considers that in some cases both liver and stomach are joint offenders, and hence divides the disease into three kinds: diabetes hepaticus, d. gastricus, and d. gastro-hepaticus. In the d. gastricus, he prefers the rennet treatment. He gives of the liquid, obtained by macerating the salted and dried stomach of a

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* Journ. de Chim. Med. ii, 161, and Chemist, iii, 766.
† Chemist, iv, 123 and 183.

frem 3 to 6 times a day. This is accompanied by a small quantity of alkali, such as the tribasic phosphate of soda, or the carbonate of potash, and a little tincture of nux vomica as a stimulant tonic. The diet is principally animal, bread made of eggs, butter and bran, salted fish, bread occasionally, greens, beans, lettuce, and such like vegetables. The sugar, on such treatment, has disappeared in from 2 weeks to 9 months. In cases of complication with phthisis, cod liver oil and morphia should be employed. Out of 28 treated, seven have recovered their ordinary health, and there is no indication of sugar in their urine at present; three of them died from other diseases; seven were still under treatment, and the remaining eleven are very much benefitted. He conceives that the disease is owing to some substance which acts as a ferment, and that the use of rennet will destroy its character, and thus allow a return to health to the whole system. The facts in these cases bid us hope that something still more clear and satisfactory will be discovered.

The use of pepsine as a therapeutic agent, in cases where the digestive functions are much enfeebled, is attracting some attention in France, and Boudault's late researches* into the mode of its action are exceedingly important, as they present a condensed view of the physical, chemical and physiological properties of this substance. He compares the results of its action, where it is dissolved in water constituting the artificial gastric fluid, with the action of the natural gastric juice obtained directly from the stomachs of dogs through fistulous orifices made for the purpose. The latter is of a light amber color, when separated by filtration from mucous always mixed with it; has a density somewhat greater than that of water, a slightly saline, styptic taste and an odor resembling broth when heated. It may be preserved, out of contact with the air, for years. Alcohol precipitates the pepsine and separates it from its acid. On an examination of its action, he found that pepsine may be regarded as a true ferment, but that it acts on food "by dissociating its particles, making them undergo a kind of transformation but not a decomposition." Acid or neutral pepsine converts glucose in solution, when exposed to a temperature of 104° for 12 hours, into lactic acid, and then fibrine will be digested in a few hours completely. The formation of this acid, however, seems necessary in order that there should be perfect digestion. The whole process may then be stated as consisting first in the conversion of starch,

* Journ. de Pharm. et de Chim. xxx, 161; Journ. Med. ii, 718; The Chemist, iv, 155 and 206.

through the agency of salivary diastase principally, into glucose, calf, in two pints of water for 4 days or longer, a tablespoonful and then the metamorphosis of this into lactic acid. The acid must be present in order that pepsine, whether normally present or supplied *ab extra*, shall succeed in digesting fibrin. When both are present, then we have perfect digestion, that is to say, that peculiar condition of the food which allows of its being brought into the uses of the system through means of proper vessels.

The preparation of pepsine is best accomplished by Boudault's process, and is as follows :* The rennet bags of sheep are taken, "opened, reversed, and washed under a thin stream of water, to free them from alimentary matters, &c. The mucous membrane is then carefully scraped off with knife, the cells are bruised in a mortar, and digested for twelve hours in distilled water. The liquid is then filtered, and neutral acetate of lead is added, which precipitates peptate of lead." This is then acted on by sulphydric acid gas for the removal of the lead, and filtered. The filtrate constitutes neutral pepsine, to which lactic acid must be added in order to make acid pepsine. In order to obtain this, in pulverulent form, it is evaporated to a syrupy consistence, and then mixed with dried starch. The result is a fawn colored powder, of a peculiar odor and taste, and slightly coherent. This substance, as sold in the shops, is often adulterated. A spurious article introduced in England, has been shown by Mr. Squire† to be recognized by the following distinctive differences existing between it and the genuine:

Tests.	True Pepsine.	False Pepsine.
Acetate of lead . .	Abundant precipitate . . (Peptate of lead)	Slight cloudiness.
Tannin . . .	Abundant preipitate . (Tannate of pepsine)	Ditto.
Alcohol . . .	Precipitates the pepsine .	No effect.

Corvisart first recommended the use of pepsine in dispepsia. Boudault finds that it is a powerful digestive agent "in cases of want of appetite, of slow and painful digestion, diarrhœa, vomiting and the weak digestion which exists at the commencement of convalescence from serious fevers, and in the course of most

* Chemist, iv, 434.
† Chemist, iv, 436.

chronic diseases." It may be administered, before eating, in unleavened bread, or after meals, in cherry syrup. Mixed with hydrochloride of morphia, it is useful in violent pain in the stomach during digestion, with strychnia when there is deficient peristaltic action, and with many other medicaments, without impairing their properties.

As anæsthesia has attracted considerable attention for the last ten years, every substance capable of producing such a condition is investigated with care as soon as this property becomes known. Dr. Snow* of London proposes an entirely new agent (amylene,) which was first discovered by Balard of Paris in 1844. It is a colorless liquid substance, with a peculiar, disagreable odor; boils at 102° F. and has a specific gravity of 0.759. It is formed by distilling fusel oil along with anhydrous phosphoric acid, or chloride of zinc, and has a chemical composition represented by the formula C^{10} H^{10}. Alcohol and ether are its appropriate solvents, while it is only sparingly soluble in water. The author of its use as an anæsthetic sums up its properties as follows: "In regard to its odor—it is more objectionable than chloroform but much less so than sulphuric ether. In respect to its pungency—it has a great advantage over both ether and chloroform, being much less pungent than either of them. A patient often complains of a sensation of choking at the attempt to inhale chloroform, requiring at times two or three minutes before it can be overcome. The amylene can be inhaled at first of full strength, within a half minute from commencing, and the operation may generally be begun within three minutes. It prevents pain, with less profound stupor than that occasioned by other agents, and in the ready waking and recovery of the patient, it has an advantage over chloroform and ether. There is an absence of sickness from its use, and of the struggling and rigidity which are occasionally produced by the ordinary anæsthetics."

(TO BE CONCLUDED IN OUR NEXT.)

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* The Chemist, iv, 377.

PRACTICAL MEDICINE AND PATHOLOGY.

TO THE MEMORY

OF

Dr. MARSHALL HALL,

WHO DIED AT BRIGHTON, AUGUST 11TH,
1857, AGED 67 YEARS.

The *London Lancet* of the 15th of August, thus speaks of the death of this great man:

"Death, that most unsparing of tyrants, has exacted from the greatest physiologist of the age the last debt of nature. Slowly, surely, and relentlessly, disease has been undermining the earthly tabernacle of a mind which, for vast powers, high purposes, and indomitable energy, has found no superior in its native land in the present half-century. On Tuesday last, the 11th inst., Dr. Marshall Hall died at Brighton, aged 67 years.

It is impossible to record this melancholy event without feelings of the deepest sorrow. The loss is one which all must feel most keenly who have a reverence for high endeavors, for earnest devotion to science, and all the sterling qualities which can adorn a man. Science has lost the worthiest of her sons, medicine has lost a great master and philosophy a great thinker. The clear and vivid intellect of this celebrated man has steadily and successfully risen superior to the depressing influences of disease for the last fifteen years. Even during the present year, when confined to one room, his chamber has been a scene of intellectual activity. Physical debility, which robs most men of their power of thinking and reasoning, had not dimmed the brightness of his wonderful mind. Clear and penetrating, and impelled by a wide philanthropy, the last contribution of Dr. Marshall Hall to science has been a preeminently useful one to the cause of humanity. It is thus that great men should die. There is a grandeur in such a life-end, to which the mere external grace of a falling Cæsar is not for one moment comparable.

Dr. Marshall Hall was born at Bashford, in Nottinghamshire, in the year 1690. His father was a manufacturer, and a man of no small capacity and information, and had the merit of being the first person to perceive the value of chlorine as a decolorizing agent, and applying it on a large scale. The gifts of

intellect were bestowed with no sparing hand in this family. The father and two sons fully vindicated their claims to high intellectual endowments. But Dr. Marshall Hall has eclipsed his less brilliant relations. What in them was acumen and sagacity, was developed in him into genius. There was in him that rapid and far-searching intellectual vision which travels into regions far beyond the common ken of man, visible and appreciable only to the eagle glance of an almost prescient inquirer.

The history of such a man cannot fail to present numerous points of interest. The investigation of the rise and progress of a mind which has ever been foremost in the ranks of science, must afford many good and useful lessons. No fitful glare can be recognized in this life—no charlatanic attempt to pluck a crown of laurels which was not deserved; but a stern, conscientious, and faithful continuance of patient scientific toil, and the solid reward of a vast reputation.

The first step in Dr. Marshall Hall's education was taken at Nottingham Academy, then conducted by the Rev. J. Blanchard. From this school he went to Newark, where he acquired some elementary medical and chemical knowledge. But the first salient point in the life of Dr. Marshall Hall was his matriculation at Edinburgh University, in the year 1809. For a vigorous and apt mind, no better school could then have been chosen. In the present day it is hardly possible to realize the enthusiasm which inspired Edinburgh at that time. There were giants in those days. Enthusiasm, indeed, is almost too tame a word. There was a furor, an excitement produced by the united influence of a complete galaxy of talent. It was impossible but that such men as Cullen, Home, Rutherford, Gregory, Hamilton, Bell, and Barclay should kindle in the ardent minds of a vast concourse of students a flame which should burn with answering brightness to their own. From the school of that time we know many great men have sprung. It is unnecessary to particularize names which are "familiar in our mouths as household words." In that genial atmosphere, then, did Marshall Hall first imbibe that enthusiastic love of science which has been his most marked characteristic. With youthful impetuosity he plunged into the study of chemistry. Not content with merely assimilating the accepted doctrines of the science, he boldly endeavored to push its boundaries farther. With wonderful power of generalization for so young a man, and with such small materials as then existed for the purpose, Dr. Marshall Hall pointed out that there was a grand distinction between all chemical bodies, which ruled their chemical affinities. He showed that this distinction was the presence

or absence of oxygen. That oxygen compounds combined with oxygen compounds, and compounds not containing oxygen with compounds similarly devoid of that element; and that the two classes of compounds did not combine together. He believed that this general law would elucidate other chemical doctrines, and might prove valuable in the prosecution of still more recondite principles. But a mind of soaring aspirations was not likely to confine itself even to such a comparatively wide field as chemistry. The vast domain of medicine was before our student, rich in unexplored regions, abounding in all that could excite his eager spirit of inquiry, and reward his love of definite results. It was exactly at this period in the history of modern medicine that physicians were taking stock, as it were, of their old principles. Morbid anatomy, pursued in close connection with clinical medicine, was showing the defects of diagnosis. With the sagacious eye of one who was capable of seeing that the great necessity of the day was a science of diagnosis, Dr. Marshall Hall threw himself into the prosecution of this immensely important department of medicine at once. Here again we find fresh evidence of his eminently progressive spirit. No mere systematizing of what other men had gathered, but an original and comprehensive treatise resulted from the labors of his student life and early years in the profession.

In 1812 Marshall Hall took his degree of M.D., and shortly afterwards was appointed to the much-coveted post of house-physician, under Drs. Hamilton and Spens, at the Royal Infirmary of Edinburgh. In the following year we find Dr. Hall lecturing on the Principles of Diagnosis to a class, amongst whom were Dr. Robert Lee and Professor Grant. It was from this course of lectures that the treatise on Diagnosis, which was first published in 1817, took its origin.

In 1814 Dr. Marsall Hall left Edinburgh, after a residence there of five years. Great as was the individuality of this remarkable man, we cannot but point out that he was reared in a great school, taught by great men, and infected with an enthusiasm which pervaded, in some degree, all who came within its magical circle. Before entering upon his career as a private practitioner, Dr. Hall determined to visit some of the continental schools. We find him, therefore, shortly after his departure, successively at Paris, Berlin, and Göttingen. The journey was made partly on foot, and armed. At Göttingen Dr. Hall became acquainted with Blumenbach.

In 1815, Dr. Marshall Hall settled at Nottingham as a physician, and he speedily acquired no small reputation and prac-

tice. After a time, the appointment of physician to the General Hospital there was conferred upon him, and in that sphere he labored until his removal to London, about ten years after his first settlement at Nottingham. Of his work on Diagnosis it is almost unnecessary for us now to speak in terms of praise. Comprehensive, lucid, exact, and reliable, this work has, in the main, stood the test of forty years' trial. A better has not been produced. It was at this period of his career, too, that Dr. Hall made his researches into the effects of the loss of blood, the result of which was embodied in a paper read before the Royal Medical and Chirurgical Society in 1824. This paper and another in 1832, detailing Dr. Hall's "Experiments on the Loss of Blood," were published in the "Transactions of the Royal Medical and Chirurgical Society." It is hardly possible to overrate the importance of these inquiries. They revolutionized the whole practice of medicine. A new light broke in upon the medical world. A distinction, not recognized before, was drawn between inflammation and irritation. It was pointed out that delirium and excitement were by no means necessarily declaratory of cerebral or meningeal inflammation, or even congestion. Loss of blood was shown to be at the root of much that had passed before for various grades of inflammation. Practical rules were educed both for treatment and diagnosis. It was shown that active inflammation produced a tolerance of bleeding from a free opening in the upright posture; and the rare merit of supplying at once a rule of treatment and a rule of diagnosis was Dr. Marshall Hall's. Other works came forth from his pen about this time, for his mind was teeming with ideas, and his activity as an observer was unparalled. It is hardly possible to enumerate all, but in 1827 came the "Commentaries upon various Diseases peculiar to Females"—a work which may still be consulted with advantage.

It was in 1826, that Dr. Marshall Hall sought this great metropolis as the umbilicus of the world. So active and earnest a mind could not find enough to satisfy its eager cravings in a provincial town. It was here, in this mighty city, that he determined to measure himself again with numerous competitors, and to win, if possible, all the honor and all the rewards that fortune can give to those who woo her stoutly. The mind of this great man was essentially metropolitan and liberal. A fair field and no favor, and victory to the strongest, were the characteristics of his mind.

The next onward step in Dr. Marshall Hall's career was a series of researches into the circulation of the blood in the

minute vessels of the batrachia. A great step in physiology resulted from these. It was shown that the capillary vessels, properly so-called, are distinct absolutely, both in structure and function, from the smallest arteries or veins; that the capillaries, or *mathœmata*, are the vessels in which the nutritive changes in the economy are carried on.

But the great source of Dr. Marshall Hall's honor, the basis upon which his fame must rest in all time to come, was yet undeveloped; his paramount claims to the admiration of his contemporaries and of posterity consists in his discoveries concerning the nervous system. The soundest theory has been shown to be the best foundation for practice. That stupid heresy, that there is a vital distinction between the practical and theoretical man, was never more completely disproved than in the case of Marshall Hall. But we must endeavor to trace the progress of his researches. While engaged on the Essay on the Circulation of the Blood, it happened that a triton was decapitated. The headless body was divided into three portions; one consisted of the anterior extremities, another of the posterior, and a third of the tail. On irritating the last with a probe, it moved and coiled upwards; and similar phenomena occurred with the other segments of the body. Here, then, was a great question. Whence came that motor power? To set at rest that question, to solve that problem, has been the great labor of Dr. Marshall Hall's life.

The establishment of the reflex functions of this spinal cord; in short, the whole of excito-motor physiology of the nervous system is the sole work of Dr. Marshall Hall. And not only this, but he has shown there are in reality THREE great classes into which the various parts of the nervous system; the cerebral, or sentinent-voluntary; the true spinal, or excito-motor; and the ganglionic. This was the real unravelling of that perplexed and tangled web which none had before been able to accomplish. The true idea of a nervous centre could never be said to have existed before the time of Marshall Hall. The ideas of centric and eccentric action, of reflection, &c., so necessary to the comprehension of nerve-physiology, were unknown before the labors of this great discoverer. But these physiological discoveries were not mere barren facts. How rich a practical fund of therapeutical measures naturally follows the physiology of the excito-motor system, every well-informed physician can testify. Two departments of medical practice have gained incalculably. The success of Dr. Marshall Hall in the treatment of nervous diseases was alwost entirely the result of a rigid application of his own

physiological discoveries to their pathology and therapeutics. Obstetricians have found their art elevated more than any other branch of medicine. In the place of uncertain and empirical rules, there are now definite and scientific principles upon which to fall back, with the unhesitating assurance that they will stand in good stead. The complicated of all physiological acts, viz : the act of parturition, has, by the aid of the excito-motor system ; been unravelled and reduced to beautiful harmony, if not simplicity. In like manner, many of the diseases of pregnancy are explained and illuminated by the same physiological knowledge. Innumerable symptoms of other diseases are rendered intelligible and rational, which before were obscure and empirical. But to follow out the influence of Dr. Marshall Hall's discoveries through their numerous and important ramifications would be almost to write a volume on the principles of medicine. It is impossible to say when we shall cease to find some new and important application of his discoveries to the great art of healing.

We cannot pass by this period of Dr. Marshall Hall's life without remarking upon the disgraceful treatment he received from the Royal Society. The days of persecution had happily passed by, but the day of dull obstructiveness still remained. The Royal Society thought Dr. Hall's memoir "On the True Spinal Marrow and the Excito-Motor System of Nerves" unworthy of publication! So much for the acumen of this Society. A very different verdict has, however, been given since by the great body of scientific men ; and the Society, which formerly received this great man's contribution coldly, now mourns the loss of its brightest and most illustrious member.

Since the promulgation of his researches upon the nervous system, Dr. Marshall Hall has been principally occupied with extending, applying, and developing them in every possible direction. The admirable success with which he indoctrinated the profession at large with his views must be attributed as well to his native lucidity as to their inherent truth.

During the time of Palmer's trial, it occurred to Dr. Hall to institute a physiological test for the recognition of strychnia. As if to show the absolute correctness of his views, and how unlimited were the number and nature of the scrutinies they would bear, he found that a frog, immersed in water containing the $\frac{1}{6000}$ part of a grain of strychnia, would, in process of time, be thrown into tetanic convulsions. For the details of these experiments we must refer to the *Lancet* of last year. The physiological test was found to be far more delicate than the chemical. Here was an instance of sagacity and precision of thought which would have done credit to any man in the flower of his age.

The last and crowning effort of Dr. Marshall Hall in the cause of science and humanity has been his discovery of what is now universally known as the "Marshall Hall Method" of restoring asphyxiated persons. How completely and irrefragably he has proved the inutility and danger of the practices hitherto in vogue for the resuscitation of asphyxiated persons! Space prevents us from going into the theoretical details of Dr. Marshall Hall's method; but our columns have, for any time these last six months, contained, overwhelming proofs of its *truth* and adaptation to practice. It is pleasing to find that this labor of a great mind has been a labor of love, something added to the stock of human happiness, something taken away from the bitterness of life. It is singular enough that in the very place where Marshall Hall has drawn his last breath, two cases have lately occurred illustrating the superiority of the "Marshall Hall Method" over the empirical rules of the Royal Humane Society. In one case of drowning the warm bath was administered; in another, the "Marshall Hall Method" was resorted to; in the first case death was the result; in the seeond, restoration to life. It is also remarkable that in this number of our journal should be recorded three more examples, illustrative of the successful application of the "Marshall Hall Method" of treatment. It is curious, too, that one of them should have occurred at Nottingham.

In the practice of his profession, Dr. Marshall Hall was very successful. He linked himself early and resolutely to a great subject, and rose into fame upon his development of it. He realized an ample fortune as the reward of a life of unremitting toil. We do not mean to imply that competency was hardly earned under such conditions. Such a man would have been less than happy in a different sphere. Labor was to his restless and indomitable spirit a necessity. Even now, when we are recording the death of this illustrious and lamented physician, there is a volume in the press,—a recent effort of his prolific mind; and until within two months before his dissolution, the mental energies of this extraordinary man were engaged in preparing for publication, in *The Lancet*, a series of papers, entitled, "The Complete Physiology of the Nervous System."

It is somewhat remarkable that Dr. Marshall Hall never held the office of physician in an hospital in London. He was only physician to a dispensary for a short time. He lectured at the Aldersgate-street and Webb-street School of Medicine, and also at St. Thomas's Hospital Medical School. He was a candidate for the Professorship of Medicine at University College upon one

occasion: but owing, it is believed, to some improper influences, matters assumed such an aspect as to induce Dr. Hall to retire from the field.

We have thus far considered Dr. Hall as a man of science. In other relations of life he was equally deserving of our highest respect. As a politician he was liberal in the highest degree. He was a strictly moral man, and was deeply imbued with a sense of the obligation of a *practical* cultivation of religion. That which he thought right to do, he *did*, with unswerving honesty and courage. All subterfuge, trickery, quackery, and guile, were utterly foreign to his nature. So simple and child-like was he in disposition, as hardly to be able to imagine in others the guile which had no home in his own breast. He was a kind husband, a most indulgent father, and a faithful friend. He married, in 1829, Charlotte, second daughter of Valentine Green, Esq., of Normanton-le-Heath, Leicestershire. Mrs. Marshall Hall's maternal grandfather was M.P. for Shaftesbury, and son of Dr. Cromwell Mortimer, physician to the prince of Wales, father of George III. Throughout the protracted illness of Dr. Marshall Hall, the assiduous, devoted, and unremitting attentions of an affectionate wife were probably never surpassed. This testimony is due from personal observation of the fact. The deceased has left one son, who has relinquished the profession for the rural life of a country gentleman.

We must now close our notice of one over whose name we would fain linger. Melancholy as it is to say he *was* amongst us, our sorrow is stayed by the reflection that he did not live in vain. All that a grateful profession has to give to his memory will be given. We shall still think of him with affectionate respect as a Father in medicine, but as a child in the purity and simplicity of his mind. Though no title has adorned the name of the great Marshall Hall, we who are left behind will esteem him as one who would have graced rather than have been graced by honors however exalted. The *title*, which he preferred beyond all others was that of the English physiologist.

The mortal remains of this distinguished man were, on Wednesday last, removed from Brighton to Nottingham, where, we believe, a post-mortem examination has been made by his brother-in-law, Mr. Higginbottom, Jr., Dr. Ransom, physician to the Nottingham General Hospital. It is believed that the death of Dr. Marshall Hall was caused by exhaustion produced by a stricture of the œsophagus of many years standing, accompanied latterly, it was considered by many eminent surgeons, with malignant ulceration of the part. Dr. Alfred Hall, of the

Old Steyne, Brighton, was one of the chief medical attendants of the deceased in his last illness. Sir Benjamin Brodie had long since pronounced the malady from which Dr. Marshall Hall was suffering to afford no hope of the application of any permanent remedy.

He erected, previous to his death, an enduring monument which will perpetuate his memory to all generations. That monument has engraved on it THE READY METHOD for restoring asphyxiated persons to life. We present his numerous friends and readers these directions in full, except one paper which was published in our last number.

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1. *Asphyxia, its Rationale and its Remedy.*—By MARSHALL HALL, M.D.—The term Asphyxia, which ought to be exchanged for apnœa, designates that condition of the animal system which results from the suspension of respiration.

Respiration involves two processes—the inhalation of oxygen, and the exhalation of carbonic acid.

The Remedy for the suspension of respiration is, on every principle of common sense, the restoration of respiration. This view might be considered, irrespective of physiological inquiry and proof, as self-evident; but that proof is amply supplied by physiology.

Of the two functions suspended, it is certain, from physiological inquiry, that the retention of the carbonic acid is by far the more fatal, and that, in a word, asphyxia is the result of carbonic acid retained in the blood, which becomes, in its excess, a blood-poison.

If this view be correct, it is evident that restored respiration is to the blood-poison in asphyxia what the stomach-pump is to to poison in the stomach; and that it is *the* special remedy, the *sine quâ non*, in asphyxia.

But this blood-poison is formed with a rapidity proportionate to the circulation, which is, in its turn, proportionate to the temperature. To elevate the temperature, or to accelerate the circulation, *without* having *first* secured the return of respiration, is therefore *not to save*, but in reality to *destroy life!*

Now, let me draw my reader's attention to the *Rules* for treating asphyxia, proposed and practiced by the Royal Humane Society. They are as follows:—

"1. Convey the body carefully, with the head and shoulders supported in a raised position, to the nearest house,

"2, Strip the body, and rub it dry; then wrap it in hot blankets, and then place it in a warm chamber free from smoke.

"3. Wipe and cleanse the mouth and nostrils.

"4. In order to restore the natural warmth of the body:—

Move a heated covered warming-pan over the back and spine.

Put bladders or bottles of hot water, or heated bricks, to the pit of the stomach, the arm-pits, between the thighs, and to the soles of feet.

Foment the body briskly with hot flannels.

Rub the body briskly with the hand; do not, however, suspend the use of the other means at the same time; but, if possible, immerse the body in a warm bath at blood heat, or 100 deg. of the thermometer, as this is preferable to the other means for restoring warmth.

"5. Volatile salts or hartshorn to be passed occasionally to and fro under the nostrils.

"6. No more persons to be admitted into the room than is absolutely necessary."

My first remark on these rules for treating asphyxia is, that "to convey the body to the nearest house," is doubly wrong. In the first place, *the loss of time* necessary for this purpose is—*loss of life!* on the contrary, not a moment should be lost; the patient should be treated instantly, on the spot, therefore. In the second place, except in very inclement weather, the exposure of the face and thorax to the breeze is an important auxiliary to the special treatment of asphyxia.

But most of all, the various modes of restoring the temperature of the patient, the warm-bath especially, are objectionable, or more than objectionable; they are at once inappropriate, unphysiological, and deleterious.

If there be a fact well established in physiology, it is that an animal bears the suspension of respiration in proportion, not to the warmth, but, within physiological limits, to the lowness of the temperature, the lower limit being about 60° Fahr. A warm-bath of 100° Fahr. must be injurious.

All other modes of inducing warmth are also injurious, if they divert the attention from *the one remedy* in asphyxia—artificial respiration,—or otherwise interfere with the measures to be adopted with the object of restoring this lost function.

Such, then, are the views which the scientific physician *must* take in regard to the late rules for treating asphyxia promulgated by the Royal Humane Society.

I now proceed to state the measures by which those rules must be replaced.

I revert to a proposition already made; as asphyxia is the result of suspended respiration, the only remedy for the condition so induced is, self-evidently and experimentally, the restoration of respiration.

But there is an impediment to artificial respiration never before pointed out. It is the obstruction of the glottis or the entrance into the windpipe, in the supine position, by the tongue falling backwards, and carrying with it the epiglottis—an event which can only be effectually remedied by adopting *the prone position.*

In this position the tongue falls forward, drawing with it the epiglottis, and leaving the ingress into the windpipe *free.*

But even when the *way* is patent, there remains the question, how is respiration to be effected? The syringe or the bellows may not be at hand, and if they were, the violence used by them is apt to *tear* the delicate tissue of the lungs. The mode proposed by Leroy, of compressing the thorax by means of a bandage, and allowing its expansion by the resilience of the costal cartilages, is proved by experiment to be futile, chiefly, no doubt, from its being attempted in the supine position, with the glottis obstructed.

The one effectual mode of proceeding is this; let the patient be placed in the prone position, the head and neck being preserved in their proper place. The tongue will fall forward, and leave the entrance into the windpipe free. But this is not all, the thorax and abdomen will be *compressed* with a force equal to the weight of the body, and *ex*piration will take place. Let the body be now *turned* gently on the side (through rather more than the quarter of a circle,) and the pressure on the thorax and abdomen will be removed, and *in*spiration—effectual *in*spiration—will take place! The expiration and inspiration are augmented by timeously applying and removing alternately pressure on the spine and ribs.

Nothing can be more beautiful than this life-giving—(if life *can* be given)—this breathing process.

In one series of experiments, twenty cubic inches of air were *ex*pelled on placing a corpse in the prone position, and ten cubic inches more by making pressure on the thorax and ribs, the *same* quantities *in*haled on removing that pressure, and on rotating the body on its side. But I must give the experiments in detail:

A subject was laid on the table, and a pressure made on the thorax and ribs, so as to imitate the procedure of Leroy. There was no result; a little gurgling was heard in the throat, but *no inspiration* followed. The tongue had fallen backwards, and

closed the glottis or aperture into the windpipe! All inspiration was prevented.

Another subject was placed in the *prone* position. The tongue having fallen *forwards*, and the glottis being free, there was the *ex*piration of twenty cubic inches of air, a quantity increased by ten cubic inches more on making pressure along the posterior part of the thorax and on the ribs. On removing this pressure, and turning the body through a quarter of a circle or rather more, on the side, the whole of the thirty cubic inches of air were *in*spired!

These manœuvres being repeated, ample respiration was performed!

Nay, there may be a question whether such considerable acts of respiration may not be too much.

It is to be observed, however, that, in this mode of artificial respiration, *no force* is used; the lung therefore is not injured; and that, as the air in the trachea and bronchial tubes undergoes little or no change in quantity, the whole inspired air passes into the air-cells, where the function of respiration is alone performed.

It deserves to be noticed, that in the beginning of this experiment in the prone position, the head had been allowed to hang over the edge of the table; all respiration was frustrated! *Such is the importance of position.*

Reserving the full exposition of this method of *postural respiration*, this theseopnœa for another occasion, I will conclude by reducing these rules into the simplest *Rules* for the treatment of asphyxia.

All obstruction of the glottis being removed by placing the patient in the *prone* position, in which any fluids and the tongue itself fall forward (*Rule I.;*) our *first* effort is to *excite* respiration physiologically (*Rule II.;*) our *second*, if this fail, is to *imitate* the acts of respiration mechanically (*Rule III.;*) our next object is to endeavor to improve the circulation which is done by promoting the flow of the venous blood, and to restore warmth in the limbs (*Rule IV.;*) we again as we proceed, revert to the physiological principle of *exciting* respiration from time to time, (*Rule V.;*)

RULES.

1. Treat the patient *instantly*, *on the spot*, in the *open air*, freely exposing the face, neck, and chest to the breeze, except in severe weather.

2. Send with all speed for medical aid, and for articles of clothing blankets, etc.

I. *To Clear the Throat,—*

3. Place the patient gently on the face, with one *wrist* under the forehead;

[all fluids and the tongue itself then fall forward, and leave the entrance into the windpipe *free.*]

II. *To Excite Respiration,—*

4. Turn the patient slightly on his side, and

(i.) Apply snuff or other irritant to the nostrils, and

(ii.) Dash cold water on the face previously rubbed bris kly until it is warm.

If there be no success, lose no time; but,—

III. *To Imitate Respiration,—*

5. Replace the patient on his face;

6. Turn the body gently, but completely, *on the side and a little beyond*, and then on the face, alternately; repeating these measures deliberately, efficiently, and perseveringly, fifteen times in the minute, *only;*

[when the patient reposes on the thorax, this cavity is *compressed* by the weight of the body, and *ex*piration takes place; when he is turned on the side, this pressure is removed, and *in*spiraton occurs.]

7. When the *prone* position is resumed, make equable but efficient *pressure along* the spine; removing it immediately before rotation on the side;

[The first measure augments *ex*piration, the second commences *in*spiration.]

IV. *To induce Circulation and Warmth,—*

continuing these measures:

8. Rub the limbs *upwards*, with *firm pressure* and with *energy*, using handkerchiefs, etc.

9. Replace the patient's wet clothing by such other covering as can be instantly procured, each bystander supplying a coat os waistcoat.

Meantime, and from time to time,—

V. *Again,—to Excite Inspiration,—*

10. Let the surface of the body be *slapped* briskly with the hand; or,

11. Let cold water be *dashed* briskly on the surface previously rubbed dry and warm.

The measures formerly recommended and now rejected by me —removal of the patient, as involving dangerous loss of time; the bellows, or any *forcing* instrument, and the warm bath, as positively injurious; and galvanism and the inhalation of oxygen as useless.

The inhalation of dilute pure ammonia has in it more of promise.

To recapitulate, I observe that—

1. If there be one fact more self-evident than another, it is that artificial respiration is the *sine quâ non* in the treatment of asphyxia, apnœa, or suspended respiration.

2. If there be one fact more established in physiology than another, it is that within just limits, a *low* temperature conduces to the protection of life, in cases of suspended respiration, and that a more elevated temperature destroys life. This is the result of the admirable, the incomparable, work of Edwards.

3. Now the *only* mode of inducing efficient *respiration* artificially, at all times and under all circumstances, by the hands alone, is that of the postural manœuvres described in this paper.

This measure *must* be adopted.

4. The *next* measure is, I have stated, to restore the *circulation* and *warmth* by means of pressure firmly and simultaneously applied *in the course of the veins*, therefore *upwards*.

5. And the measure *not to be adopted*, because it tends to extinguish life, is *the warm bath, without* artificial respiration.

This measure *must* be relinquished.

These conclusions are at once the conclusions of common sense and of physiological experiment. On these views human life may, nay, must, sometimes depend.—*Lancet*, April 12, 1856.

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2. *The fatal tendency of the Warm Bath in Asphyxia.*—By Dr. Marshall Hall, F.R.S.—"Warmth is so obviously a stimulus, and a stimulus is so apparently required for a patient taken out of the cold water in a state of asphyxia, that in recommending the warm bath we seem to be addressing ourselves to the common sense of mankind, and it was a step in advance to entertain a *doubt* on the subject.

But when we begin to experiment—when we learn that an animal deprived of respiration by being submerged under water, *lives longer* in *cool* water than in *warm* water, we learn to consider whether, in fact, coolness is not more favorable to life in the asphyxiated from submersion, than warmth. We recall to mind, too, that animals bear the abstraction of respiration in proportion to their coolness; the hybernant animals and the

batrachian tribes will scarcely drown at all. If a kitten be first cooled, or if it be immersed in cool water, it will not drown so soon as it would do if submerged at its ordinary temperature in water of the same temperature—facts established by Edwards, by M. Brown-Sequard, and myself, and witnessed by the Secretary of the Royal Humane Society, and by its superintendent, in Hyde Park.

"Thus experiment is made to correct preconceived ideas, however apparently consonant with common sense.

"There are other facts which point to the other modes of treatment of the drowned, which the administration of the warm bath necessarily excludes. If a poor creature be perishing for want of food, we cautiously administer food. If a man be, in like manner, perishing for want of air? Is this not simple and reasonable? And in the case of drowning, is not the want of air the first condition to which we should bring succor, and the want of temperature the second or third? And should we not first administer to the first want? Then in the case of drowning we should administer air first and warmth in the second place. But may not the warmth administered without air do great and absolute injury? It raises the temperature, and in so doing augments the necessity of respiration to life.

"In the first place, if *any* effect be produced by the warm bath, the circulation is accelerated. But to accelerate the circulation without inducing, at the same time, efficient respiration, is to augment the formation of carbonic acid—the *blood-poison*—without its elimination from the system, and it induces, consequently, a fatal result:

"*Secondly*, all *excited* respiration through the medium of the cutaneous excitor nerves is excluded, the uniform temperature of the warm bath excluding the excitants of those nerves arising from the *alternate* application of *heat* and *cold* to the surface;

"And *thirdly*, *imitated* respiration is excluded by the very sustained position of the patient, excluding, as it does, alternate pronation and rotation, and pressure applied and removed, or changes of position and compression, which induce respiratory movements.

"So that the warm bath is not only positively, injurious by *poisoning*, but negatively, by excluding the de-poisoning process,

"*Lastly*, the warm bath excludes those frictions of the limbs upwards, with pressure, which really constitute the most effectual means of promoting the circulation and warmth.

"Nor is it unimportant to save the *time* expended in preparing the warm bath, or in carrying the patient to it.

"And it is scarcely a minor point to direct *all our thoughts and energies*, undiverted, to *the* important remedies exclusively.

"In conclusion, the warm bath is of *double fatal tendency*: it is so in itself positively; and it is so negatively, by excluding every real remedy."—*Lancet*, Dec. 20, 1856.

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3. *On the "Ready Method" in cases of Choking.*—By Dr. Marshall Hall.—"Death in choking is the result of a diastaltic spasmodic closure of the glottis.

"Nothing can be done in this stage of the accident, except, 1, to endeavor, by introducing the finger into the fauces, to induce vomiting; 2, to introduce something like a bougie into the œsophagus (a firm scroll of linen being the readiest;) or, 3, to adopt a measure, which I adopted on an emergency, with immediate success, some years ago.

"A little boy, eating some fowl in haste, attempted to swallow too large a morsel, and was choked; I ran to him, placed him between my knees, one knee (the right) pressing firmly on the stomach, the other on the back; I then placed one hand (the left) on the back of the thorax, whilst I gave a firm blow with the other on the sternum. In an instant I had the joy of seeing the morsel of chicken expelled with force to a considerable distance; and all was safe!

"But supposing all these efforts to fail. What is then to be done?

"In the midst of the asphyxia induced by the closure of the glottis, the excito-motor power fails, and the larynx is no longer spasmodically closed; and now the 'ready method' may be adopted, with the effect of sustaining life, until such a bougie is made as shall be effectual in pushing down the morsel of food or other object in the pharynx or œsophagus.

"A *firm* scroll of cotton or linen, when imbued with grease, made from a sheet, a window-blind, or curtain, may then be made, not in too great haste, and be boldly passed into the œsophagus.

"The morsel of food is generally lodged in the pharynx, or *upper* part of the œsophagus, and, when found lower down, ceases to excite reflex action of the larynx; and breathing is, therefore, possible.

"A thin bent tallow-candle, or a piece of firmish *cord* (taken from the window-frame,) might answer the purpose of the bougie.

"The 'ready method' procures us the *time* necessary for obtaining or preparing *any* of these means, and for giving full directions to the assistants. In performing it, a little brisk

movement may be adopted in pronation, and in making dorsal pressure, which may, if not at first, eventually, dislodge the foreign body.

"I need scarcely suggest, that this last measure should also be enforced in cases of a foreign body inhaled into the larynx both *before* and *after* tracheotomy, with the addition of a firm blow, with the open hand, on the back."—*Lancet*, Jan. 17, 2857.

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4. *The "Ready Method" in Cases of Narcotic Poisoning.*—By MARSHALL HALL, M.D.—Many years ago, a lady drove to my door in the utmost consternation, having shortly before swallowed an ounce and a half of Battley's solution of opium, in mistake for a senna draught.

I instantly applied the stomach-pump with my own hands, and her life was saved.

I have often asked myself the question: What should I have done had I not had the stomach-pump in all readiness, and had not been able to induce vomiting? Until this hour, I knew not how satisfactorily to answer this fearful question.

There are two stages in narcotic poisoning, in each of which the "Ready Method" is, in the absence of the stomach-pump, our *hope*.

The *first* is, that in which our object is to remove the poison from the stomach by the induction of *vomiting*, but in which, from the degree of narcotism, all ordinary remedies fail.

The *second*, that in which our object and hope are, to continue respiration *until* the elimination of the poison from the system may be accomplished.

In the former case, the patient should be laid on a table, with the head projecting beyond its edge, if possible; if not, on the floor; and, being placed on the *side*, the finger of one person is to be introduced into the *fauces*, whilst the body is briskly and repeatedly rolled into the *prone* position by another.

If there be the slightest degree ("*scintillula*") of excito-motor power remaining, the *cardia*, already somewhat relaxed, perhaps, from torpor, will be still further relaxed, physiologically, whilst the *glottis*, the safety-valve of the trachea, is closed, and the *thorax* and *abdomen* being compressed by a force equal to the superincumbent weight of the body, to which further force may be added by means of pressure made along the spine, *mechanical* vomiting will be produced, and the poison expelled.

This desirable effect will be produced in cases in which the narcotic torpor is too great to admit of exciting the very complex act of *physiological* vomiting.

But let us now suppose that the narcotism is too deep for the success of this manœuvre—that the *second* case is before us. Then our hope consists in continuing respiratory movements until the poison is eliminated from the blood and the general system. In one word, our hope is in the "Ready Method," such as I have recommended it for asphyxia!

I suppose that volition has ceased, and that the patient can no longer be made to move or walk about; that all physiological respiration has ceased, or is about to cease; then, one hope still remains—postural respiration—and the other measures comprised in the "Ready Method in Asphyxia;" and I need not say how long and perseveringly this method should be continued. —*Lancet*, Jan. 17, 1857.

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5. *On the Detection of Strychnia.*—By MARSHALL HALL, M.D.—The detection of strychnia as a poison is, at this moment, of deep public interest.

When the *chemical* test fails, there remains, I think, another —the *physiological*. Having long studied the effects of strychnia on the animal economy (I have sent two papers on this subject to the Institute of France*) I am persuaded that these effects on the *most excitable* of the animal species are at once the most delicate and specific tests of this poison.

I have just performed two experiments, and only two, for want of materials for more.

I requested Mr. Floyd Bullock, of Hanover Street, to dissolve one part of the acetate of strychnia in one thousand parts of distilled water, adding a drop or two of acetic acid.

I then took a frog, and having added to one ounce of water 1-100th part of a grain of the acetate of strychnia, placed the frog in this dilute solution. No effect having been produced, 1-100th of a grain of the acetate was carefully added. This having produced no effect, in another hour 1-100th of a grain of the acetate was again added, making the 3-100ths, or about the thirty-third part of a grain. In a few minutes, the frog became violently tetanic, and though taken out and washed, died in the course of the night.

I thus detected, in the most indubitable manner, one thirty-third part of a grain of the acetate of strychnia. It appeared to me that had more time been given to the experiment, a much minuter quantity would be detectible.

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* See the Comptes Rendus for June, 1847, and February, 1853.

I placed the second frog in one ounce of distilled water, to which I had added the 1-200th part of a grain of the acetate of strychnia. At the end of the first, the second, and the third hours, other similar additions were made, no symptoms of strychnism having appeared. At the end of the fifth hour, the frog having been exposed to the action of 1-50th part of a grain of the acetate of strychnia, tetanus came on, and under the same circumstances of removal and washing, as in the former experiment, proved fatal in its turn.

I thus detected 1-50th part of a grain of the poisonous salt by phenomena too vivid to admit of a moment's doubt; the animal, on the slightest touch, became seized with the most rigid general spasmodic, or, rather, tetanoid rigidity. And this phenomenon, alternating with perfect relaxation, was repeated again and again.

As the nerve and muscles of the frog's leg, properly prepared, have been very aptly designated as galvanoscope, so the whole frog, properly employed, becomes strychnoscopic.

In cases of suspected poison from strychnia, the contents of the stomach and intestines, and the contents of the heart, blood-vessels, etc., must be severally and carefully evaporated, and made to act on lively frogs just taken from the ponds or mud. I need scarcely say that, taken in winter, the frog will prove more strychnoscopic than in summer, in the early morning, than in the evening.

The *best* mode of performing the experiment also remains to be discovered, with all its details and precautions; an inquiry into which I propose te enter shortly. Meantime, this note may not be without its utility.

Princes Street, Hanover Square, January, 1856.

P. S.—I have repeated my experiment. I placed one frog, fresh from the pools, in an ounce of water, containing the 1-50th part of a grain of the acetate of strychnia; a second in the same quantity of water, containing the 1-66th, a third containing 1-100th, and a fourth containing 1-200th. All became tetanic in two or three hours, except the third, which was a *female* (the others being males,) which required a longer time.

The 1-200th part of a grain of the acetate of strychnia, is therefore, detectable by means of this test conferred by physiology.

We now placed a male frog in 1-400th part of a grain of the acetate of strychnia, dissolved in six drachms of water. In three hours and a-half it became violently tetanic.

The fresh frog is, therefore, at this season, strychnoscopic of

1-400th part of a grain of the acetate of strychnia, and probably to a much minuter quantity, which ulterior experiment must show.

In two other experiments, the 1-500th and the 1-1000th of a grain of the acetate of strychnia were detected.—*Lancet*, January 12, 1856.

MATERIA MEDICA AND THERAPEUTICS.

1. *On Pepsin, and its Chemical and Physiological Properties.* (Bulletin de Thérapeutique, January, 1857.—In an analysis of a paper read lately by M. Boudault to the Société de Pharmacie of Paris, the author, after discussing the general properties of pepsin, proceeds to make the following remarks upon that substance employed as a medicine: Its administration presents some rather considerable difficulties, in consequence of its liability to alteration when the vessel which contains it has been open. Besides this, its origin, its viscosity, and its disagreeable smell were so many motives for disliking it on the part of the patient. It was necessary, then to find a method of transforming it without injuring its medical action. It was to be feared, in associating it with an inert substance, that the latter would experience a kind of digestion, or would act upon the pepsin as a ferment. It was necessary, besides, that this substance should be sufficiently hygrometic to absorb the humidity of the pepsin, and not to attract, in addition, the air. Sugar was one of the substances with which it appeared most easy to associate pepsin; but at the end of some days the cane-sugar is transformed, under its influence, into glucose, and afterwards into lactic acid, for here the pepsin acts as a true ferment. Starch dried at 100 degrees (Cent.) has given to M. Boudault the most favourable results. Starch, which has the property of not injuring the digestion, forms with pepsin a pulverulent matter, the odour of which is very weak, and the taste partly disguised. This powder is preserved very well in well-stopped bottles, and time does not modify in any way its physiological properties. Under this form, pepsin may be mixed with a number of medicinal substances which do not at all modify its therapeutic action: thus, with hydrochlorate of morphia, to relieve violent pains of the stomach; with strychnine, to stimulate the peristaltic movements of this organ; with nitrate of bismuth, lactate of iron, carbonate of iron, and other similar preparations. It is very efficacious in

dyspepsia, and in all cases of difficult digestion which generally follow the convalescence from serious or chronic diseases; and it has been found a powerful digestive agent in cases of consumption caused by insufficient food. Pepsin is administered in the first spoonful of soup, or even before meals, wrapped up in a wafer; and precaution must be taken not to eat immediately afterwards food which is at a higher temperature than 45 deg., for then the digestive properties of pepsin would be destroyed. It is employed in the acid or in the neutral state. In the acid state it takes the place of the gastric juice, when the latter is not formed in sufficient quantity in certain morbid affections; in the neutral state—that is to say, feebly acidulated—in cases where the stomach contains too great a quantity of acid. It may be shown that chemical or artificial pepsin may very well take the place of the gastric juice, and may be considered among one of our most heroic remedies.

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2. *On the Preparation and Therapeutical Employment of Subcarbonate of Bismuth.*—(Bulletin de Thérapeutique, February 15th, 1857.)—The following is the mode of preparation of the subcarbonate of bismuth described by M. Hannon, Professor at the University of Brussels. The bismuth is first purified by melting this metal in powder with ten times its weight of powdered nitre. After cooling, the metal is again powdered and mixed with ten times its weight of nitre, and after a second fusion the bismuth may be considered as entirely free from the arseniurets sulphurets which it almost always contains. Then three parts of nitric acid are put into a retort, and one part of pure bismuth is added. When the reaction is complete, about a third of the liquid is evaporated, then the solution is poured drop by drop into a solution of carbonate of soda, and a white precipitate is obtained, which is subcarbonate of bismuth. The precipitate, after having been washed five or six times with distilled water is thrown upon a filter, and washed again to remove the last traces of carbonate of soda. It should be preserved in well-stopped bottles. The physiological properties of the salts of bismuth are very little known, for the simple reason that the subnitrate is the only salt which has been employed in medicine. The operation even of this salt is not well understood, as its insolubility offers an obstacle to the observation of the physiological phenomena which might have been observed in the other salts of bismuth, such as the citrate, the tartrate, or the carbonate. It is also the insolubility of the subnitrate which renders it inefficient in the greater part of the cases in which it is indicated;

and it also occasionally produces a very inconvenient sensation of weight at the stomach. The subcarbonate is soluble in the gastric juice, its action is rapid, it produces no sensation of weight at the stomach. The action of the subcarbonate appears to be sedative during the first days of its employment, and subsequently to excite all the phenomena which result from the action of the tonics.

As to the therapeutical action, it may be noted that all cases of grastralgia consecutive upon phlegmasia, of the digestive passages, cases in which the tongue is red and pointed, and cases in which the digestion is laborious and accompanied with putrid or acid eructations, or in which there is a tendency to diarrhœa or spasmodic vomiting, demand the employment of the subcarbonate of bismuth. This salt is also required in the vomiting of children, whether caused by dentition or succeeding to frequent fits of indigestion, and in the diarrhœa of weak children, especially when occurring at the time of weaning. One great advantage possessed by the subcarbonate of bismuth is, that it neutralizes the acids in excess which are found in the stomach. The subnitrate, as is well known, fails always in this respect. In all the cases where the subcarbonate has been taken, the pain in the digestive passages is first found to disappear; then the eructations cease, together with the vomiting or diarrhœa; the digestion becomes less and less laborious, the tongue gradually receives its normal form and colour; and if the use of the subcarbonate is continued, the appetite increases from day to day, the yellow tint of the countenance disappears, and the face becomes coloured at the same time as it ceases to be shrivelled.

The subcarbonate of bismuth is perfectly insipid, and excites no repugnance. It is given before meals. Adults take it in water, and children in honey. It may also be made into lozenges. The dose for adults is from one to three grammes, taken three times a day in increasing doses.

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3. *Of the Employment of Electricity in the Suppression of the Lacteal Secretion.*—(L'Union Médicale, January 3rd, 1857.) —M. Becquerel, in a late communication to the Société Médicale des Hôpitaux de Paris, has made some remarks upon the influence of electricity in restoring the secretion of milk. His attention was called to the subject by a case related to him by M. Aubert, who had employed electricity in the case of a young woman whose milk had been suppressed in consequence of a double pneumonia. The electricity was applied to the breasts by means of moist excitors, and after four applications, each lasting twenty

minutes, the lacteal secretion was completely restored. M. Becquerel was at first incredulous as to the reality of the result; but the following case, which fell under his observation, removed his doubts:

A young woman, aged twenty-seven, well formed, although of a nervous temperament, had suckled a young infant for six months, but, on the occasion of some intense and often-repeated mental emotions, the lacteal secretion diminished considerably; the right breast retained a little milk, but the left was almost completely dried up. M. Becquerel applied the electrical current at first to the left breast, placing the moist excitors, made of sponge, successively in the different points of the circumference of the breast, so that the currents might traverse the organ in all directions. Three applications were made, each lasting a quarter of an hour. The patient suffered very little, and indeed experienced little more than a feeling of inconvenience. From the time of the first application, the rush of milk supervened almost immediately after the application, the secretion was full and entire; the child had taken the breast, and the milk was abundant in the left breast, and sufficient in the right to obviate the necessity of applying the electricity on that side.

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4. *On the Employment of Iodide of Calomel (Chlorure Mercureux) as a Local Application in Uterine Engorgment.*—By F. Rochard. L'Union Médicale, January 6th, 1857.)—Dr. Rochard having applied the iodide of calomel in certain hypertrophic and sub-inflammatory affections of the neck of the uterus, has arrived at the following conclusions in favour of this kind of medication.

When a pledget of charpie, covered with a pommade of iodide of calomel, is applied to the neck of the engorged uterus, ulceration being absent, the women in general experience no particular sensation, but sometimes they feel towards the conclusion of the application a slight sensation of heat in the hypogastric region; when ulceration exists the sensation of heat is manifested very early, and is habitually followed by pains which may be rather severe. As soon as the dressing is removed, the sensation or even the pains are immediately relieved, and the neck of the uterus when examined appears more voluminous than before. If it is not ulcerated, there is formed upon all the surface of the mucous membrane touched by the pommade of a thin exudation of greyish-white colour, and of a consistence rather less than that of boiled albumen, which when examined by the microscope, exhibits neither pus, nor epithelium, nor fibres, but only a granular,

transparent, and apparently amorphous mass. When the neck is ulcerated, the same exudation is formed, but it does not remain adherent to the mucous membrane, and is removed with the dressing; in this case it contains some remnants of deformed epithelium. Besides this exudation, the charpie which has served for the dressing is always moistened with a serous liquid, sometimes sufficiently abundant to flow outwards and to form greyish spots upon the patient's linen. In the days succeeding the dressing, the exuded coagulum is detached by degrees, the volume of the os uteri diminishes, and becomes less than it was before the topical application; if there was any induration, which is generally the case, this induration is much less from the day succeeding the dressing. At the end of eight, ten, or twelve days, if the amelioration has made no progress, the dressing is renewed, and gives rise to the same phenomena, although in a less marked degree; and after two, three, four, or five applications made at the same intervals, the os is usually restored to its normal volume and the ulcerations are cicatrized. The patients, who feel themselves *less heavy* on the first application, are relieved from all painful sensation, particularly those who had no ulceration. The latter recover only after a long period; the others can generally walk with ease after the second application, even when walking was previously impossible. The mode of applying the pommade is by preparing a pledget of charpie of suitable thickness, and of rather larger dimensions than the volume of the os uteri. The centre alone is covered with a light layer of the pommade, so that the edges which remain dry defend the vaginal mucous membrane from the contact of the application, which might cause inflammation.

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5. *On a New Principle of the Colchicum Autumnale.*—(L'Union Médicale, January 10th, 1857.)—M. Oberlin has just communicated to the Académie des Sciences at Paris some observations on the Colchicum autumnale, from which he has extracted a neutral crystalline principle which he calls *colchiciene*, a complex and uncrystallizable product. The properties of colchicéine are to crystallize very easily in pearly laminæ, and to be almost completely insoluble in water, but to communicate to this fluid a slight bitterness, which increases sensibly when it is boiled. At this temperature a notable part of the product is dissolved, but it is deposited immediately after cooling. The solvents of colchicéine are alcohol, ether, methylated spirit, and chloroform, which contract, when mixed with it, a very intense and persistent bitterness. The alcoholic solution of colchicéine

is coloured by the addition of bichloride of platinum, but no precipitate is formed. Pure concentrated nitric acid dissolves colchicéine, and becomes coloured of a very intense yellow tint, passing into a violet colour, then to a deep red and a clear red, and finally returning to its primitive yellow colour. Concentrated sulphuric acid forms with it a solution of a very intense yellow colour, which is preserved even when it is diluted with water, and brownish flocculi are formed in it. Hydrochloric acid dissolves it with a clear yellow colour. The acetic acid also dissolves it, but without change of colour. Colchicéine is soluble in ammonia, and crystallizes by evaporation in the air; and it dissolves in caustic potash. It is unalterable in the air; it has no effect upon turmeric paper; exposed to heat, it first softens and afterwards fuses at 155° (Cent.?) The elementary composition of colchicéine is C 62, 83, -|- H 6, 60 -|- N 4, 19 -|- O 26, 38=100, 00.

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6. *On the Treatment of Strangulated Hernia by the Internal use of Belladonna.* (L'Union Médicale, January 27th, 1857.) —Dr. de Larne, of Bergerac, relates the following case, in which the employment of belladonna combined with the taxis succeeded in effecting the reduction of a strangulated hernia. An old woman, aged seventy, had suffered for about seven years from a crural hernia of the right side, which, however, did not generally give rise to inconvenience or pain. On rising from bed on the 17th of September, 1856, she experienced the symptoms of strangulation of the hernia; the belly was stretched, tympanic, and painful to the touch; there was repeated vomiting, most frequently stercoraceous; total absence of evacuation by the anus; small, weak pulse, without marked frequency; skin dry, moderately hot; respiration anxious; slight thirst; dislike of food; the tumor was resistent, of a violet hue, as large as a turkey's egg. All attempts at manual reduction having failed, the patient was ordered rest, low diet, a suitable position, cold water for drink, and a belladonna mixture. The latter preparation was composed of the watery extract of belladonna, 20 centigrammes; of syrup of orange flowers, 30 grammes; and of distilled water, 60 grammes. It was given in the dose of a teaspoonful every quarter of an hour, and was continued for nearly four days, when the obstacle having been sufficiently removed by the use of the belladonna, the hernia yielded readily to the taxis. The author of the communication observes, that during the administration of this drug a notable and real amelioration of the tumor was observed, although the strangulation con-

tinued; and that, notwithstanding the dose (which amounted altogether to one gramme and a half of the extract of belladonna,) only a few alterations of delirium or sleep were induced, without any other toxical symptoms of importance.

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7. *On the Therapeutical Applications of Glycerine.—Supplemental Notes.*—By Dr. W. Lauder Lindsay.—(Edinburgh Medical Journal, April, 1857.)—In continuation of the remarks previously made by Dr. Lindsay on the therapeutical applications of glycerine, he has collected together a large amount of evidence in favour of this substance as a remedial agent in various affections, employed both internally and externally. As an internal medicine, it would appear to possess properties very similar to those of cod-liver oil, but it has the recommendation of being more pleasant to take; and in certain cases where the cod-liver oil was not tolerated, glycerine has been used as a substitute with the best results. It should be mentioned that the effects of glycerine vary considerably in proportion to the kind of article supplied, and that the specimens obtained from various sources are by no means of equal purity and value. As an external application, glycerine may be considered as a palliative, if not a specific, in a variety of skin diseases. The evidence adduced from the practice of several surgeons proves that it is a very valuable application in scalled head, in combination with hyposulphite of soda; in itch, combined with sulphur; in inveterate psoriasis; in pityriasis, lepra, lichen, eczema, impetigo, prurigo; in certain forms of lupus, and of strumous and syphilitic eruptions. As a solvent or excipient, or vehicle for pharmaceutical preparations, glycerine is now much employed; and Messrs. Price & Co., of London have prepared a series of medicinal compounds, in which glycerine is still so high as to preclude its general use among the lower classes.

MIDWIFERY.

1. *On the age in which Hysterical Affections are most liable to be developed.*—By Dr. Briquet.—(L'Union Médicale, Sep. 4, and 20, 1856; and Medico-Chir. Review, April, 1857.)—Dr. Briquet passes in review the doctrines taught by various writers on the subject of the occurrence of hysteria, and then analyzes a series of 467 cases occurring in his own practice in the course of ten years, in which the commencement of the affection was

carefully noted. Some of his inferences would probably not be universally adopted, but his numbers are important, the more so as they are in the main corroborated by the analysis of numerous cases collected by Dr. Landouzy whose results are also given in the following table:

	Landouzy.	Briquet.
From birth to 10 years	0 cases	61 cases.
" 10 " 15 "	48 "	104 "
" 15 " 20 "	105 "	162 "
" 20 " 25 "	80 "	73 "
" 25 " 30 "	40 "	28 "
" 30 " 35 "	38 "	13 "
" 35 " 40 "	15 "	12 "
" 40 " 45 "	7 "	3 "
" 45 " 50 "	8 "	1 "
" 50 " 55 "	4 "	2 "
" 55 " 60 "	4 "	1 "

Dr. Briquet attributes the differences that are manifest between his table and the numbers given by Dr. Landouzy to the circumstance of his having exercised great care in determining the exact commencement of the disease. The following are his chief conclusions:

1. A considerable number of cases of hysteria occur while the sexual organs are yet in a rudimentary state.

2. The development of hysteria does not bear a direct ratio to the period of activity of the sexual organs, as this period commences at eleven or twelve years, and does not cease till the fortieth or forty-fifth year. On the other hand, hysteria progressively advances up to the age of twenty, and very rapidly diminishes from the twentieth to the forty-fifth year. Consequently, of thirty-four years of sexual activity, there are only from nine to ten during which hysteria prevails, while it becomes less frequent during the remaining twenty-four; and yet the sexual activity is greater than from twenty to forty-five years of age.

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2. *On Sterility.* By Mr. J. Baker Brown, Surgeon-Accoucheur to St. Mary's Hospital.—(Lancet, Feb. 28, 1857.)—The chief point in this paper is the treatment of dysmenorrhœa when it mechanically was a cause of sterility. The author says it is a derangement which might be either mechanical or spasmodic, and numerous expedients had been resorted to for its cure, such as catheterism, caustics, cutting, sponge-tents, and similar mechanical contrivences, the object being to overcome stricture of the os and cervix uteri. Mr. Brown states that he could adduce several instances where the protracted use of the

metallic bougie, or of ordinary elastic bougies, had been successful. He then calls attention to a set of instruments, which he had contrived, to dilate the os and cervix uteri where this operation was called for. He has made use of the suggestions of Mr. Thomas Wakley, who had devised and carried out a tubular system as applied to stricture of the urethra with remarkable success. In his (Mr. Brown's) instruments he has a sort of long stilette, which he introduces into the os uteri, through the speculum, as in the ordinary mode of passing Simpson's uterine sound, and then over that he passes the smallest-sized elastic tube, and allows it to remain for a longer or shorter period, according to the pain produced.

It would be found that cases which presented almost insuperable difficulties in their dilatation readily yielded under this simple contrivance, and without producing any bleeding or laceration, the not unfrequent results of ordinary dilatation. The most advantageous period for the introduction of the instrument was immediately after the cessation of the catamenia, before contraction of the canal had taken place and it had returned to its usual size. Mr. Brown then remarks that he wished to observe here that he has never seen the necessity for the introduction of caustics into the cervix for the purpose of dilatation; and he thinks that no one who had studied the delicate structure of the lining membrane of the uterine cervical canal, and who recollected the necessity for its expansion and contraction at each menstrual epoch, would ever be induced to destroy any portion of it by such means. He had had many cases come under his notice where partial occlusion of the os and cervix had been the result of their use, and he felt quite certain that the employment of such agents was a more frequent cause of sterility than was generally supposed. Mr. Brown then proposes to speak of a series of causes of sterility which had been previously recognized, and which he classed under diseases of the rectum. He would first recall to the minds of his readers the general law of the animal economy—That any irregularity or interference with the functional action of any one part of the body affects more or less the whole body. If this law pertained to the body generally, how much more must it pertain to the female organs of generation, where the slightest deviation from normal functional action must materially interfere with the delicate physiological process of impregnation and the contiguous organs. It must be borne in mind that both the rectum and uterus are supplied with blood from the internal iliac artery, and with nervous influence from the sacral plexus; and that therefore disease or functional

derangement in the one part or organ must interfere with the other. Mr. Brown illustrates it in the following manner: A female is suffering from bleeding hemorrhoids. At the menstrual period there is an increased supply to the hemorrhoidal vessels, and consequently a diminished supply to the uterus, because Nature only sends down a sufficient supply for the uterine function. The same observations apply to prolapsus ani, where there was always some loss of blood at every time of defecation, and a greater loss at the period of the menstrual epoch. If a patient was suffering from fistula or fissure, there was constantly more or less pain in the uterus as a result of reflex action, and consequently it was always under a state of irritation, which rendered it unfit for the quiet and perfect performance of its duties. Indeed, he (Mr. Brown) has seen many cases, which he would mention on a future occasion, of patients having been treated for months and years for uterine inflammation, with leeches, caustics, &c., where he had discovered a long-standing fissure of the bowel, which had been the sole exciting cause of the uterine affection. Mr. Brown then adds, that the observations might probably be deemed wanting in value and importance; but he is convinced that if he was successful in arousing the attention of the medical men to the causes and treatment of sterility in the female, some credit would be given him for the attempt to rescue the subject from the clutches of quacks, and for the views he had laid down of the effects of causes which act apparently by sympathy with and contiguity to the reproductive organs. On his part, the subject would continue to receive his best consideration; and he hopes to be enabled to present his opinions and practice more at large in a work dedicated to the profession.

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3. *On Infra-mammary Pains.*—By Dr. Simpson, Professor of Midwifery in the University of Edinburgh.—(Edinburgh Medical Journal, April, 1857.)—A local limited pain under the left mamma, more rarely under the right, is a species of suffering which is not unfrequently seen in the female sex, and it has been alluded to and described by various authors. Usually the seat of the pain is limited to a part not more extensive than a crown piece. Sometimes it spreads further, and circularly around the side. It is apparently seated in the soft parts covering the ribs, and principally in the integumental coverings. Often it coexists with uterine disease. Sometimes it persists for weeks, months, and years, occasionally recurring in fits, more generally of a chronic, and more permanent nature. Many means have been suggested for its relief and treatment; as cupping and

counter irritating the corresponding portion of the vertebral column; applying leeches, blisters, sedatives, &c., to the affected part. Latterly, in a considerable number of instances, Dr. Simpson has injected the subcutaneous tisue at the pained part with ten or twenty drops of the common solution of the muriate of morphia, or with a watery solution of the bimeconate of morphia, of the same strength, according to the plan ingeniously suggested by Dr. Alexander Wood for the cure of neuralgia, and the results have been in most cases successful beyond his previous hopes. He has seen the pain at once disappear in a number of instances in which it had previously persisted for various lengths of time. In most a single morphia injection has sufficed; in some it required to be repeated twice or oftener. The instances which have not yielded to this treatment have been relatively very few in number, compared to those in which it has succeeded; and the measure is so simple and so generally effectual as to deserve the attention of all practitioners.

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4. *A case of Cancer of the Mamma removed by a painless method.*—By Mr. Barwell, Assistant-Surgeon to the Charing-Cross Hospital.—(Lancet, March 14, 1857.)—There are, besides the many mineral escharotics, several belonging to the vegetable kingdom, which have the advantage of painlessness. Moreover, they hardly act on any but fungoid or lowly organized growths. Such are, for example, oak-bark, the sanguinaria canadensis, &c. In this case tannic acid was used.

Case.—M. H.—, æt. 62, came to Mr. Canton, at the Charing-Cross Hospital, with a tumor in the right breast, on the 5th of January, 1857. She has borne and suckled seven children, suffered eight miscarriages, and ceased menstruating at fifty. For some years past has been troubled with business difficulties; but about Christmas, 1854, more important family troubles deprived her of sleep and appetite; she lost flesh, and has since remained thin. In February, 1856—that is, fourteen months after the commencement of these more serious anxieties—she found by accident a hard lump, about the size of a marble, in the right breast. Up to last November this tumor remained passive, but at that time began to increase rapidly, and to give rise to sharp, darting pains. Mr. Canton seeing her on the 5th, pronounced the tumor scirrhus, and knowing me interested in such, was kind enough to order her to return in a week, that I might have an opportunity of seeing the case. On the 12th of January, I saw her with Mr. Canton. She is rather tall and spare, with a worn look, slightly yellow tinge of complexion. The tumor, as

large as a full-grown English walnut, was at the inner side of the breast, and a little below the level of the nipple. It was of stony hardness, without claw-like prolongations, smooth on the surface, and moveable amongst the tissues. The skin was adherent over a space rather larger than a sixpence, and in the centre of this space was a small dry scab, which, when removed, showed an ulcer, around which the skin was just beginning to wrinkle. Mr. Canton removed this tumor together with a good deal of the surrounding tissue. The wound bled considerably. Various styptics were used, and in about six hours the bleeding was arrested.

I took the tumor home with me for further examination. On cutting it in halves, it creaked under the knife, showed a pearly surface, with fibrous appearance. On pressure there oozed forth a white homogeneous juice, which emulsioned perfectly in water. A piece of tumor showed, under a magnifying power of three hundred diameters, fibrous matter in considerable quantities, and a large number of nucleated, binucleated, nucleolated cells, with thin walls and irregular outline. Running around the tumor, in its substance, was a thin red vascular line, lost in the little ulcerated spot above mentioned. This appeared to me the first step towards softening.

January 19th.—The wound has been going on well; but today it has assumed a somewhat suspicious appearance.

27th.—Mr. Canton was good enough to offer the future management of the case to me. I noted the following general and local appearances:—The skin assumed a duller and yellower hue; the conjunctiva was of an ashen-green color; the patient had a worn look; was dark under the eyes; had little appetite. There was a hard tumor, which partly enclosed the outer edge of the wound, and extended two inches beyond it, the growth measuring literally nealy three inches; from top to bottom an inch and a-half; the end of the wound cuts an angular slice out of this tumor, the cavity being lined with rugged tissue, some of which I clipped off, and under the microscope, found it to consist of soft fibrinous matter, mixed with some such cells as above described, but chiefly with free and clustered nuclei with nucleoli. I applied, by means of a sable brush, a solution of tannic acid—one ounce of acid to half an ounce of water; and ordered her to take fifteen minims of the chlorinated soda solution, in water, three times a day.

On the following morning there was a thick white slough, which could be partially separated, so as again to allow of a free application of the acid. This escharotic was applied daily; it

caused no pain; indeed, a throbbing, darting pain, which she had complained of at first was soon greatly lessened; portions of slough separated occasionally from the mass, and were removed; and on the 10th of February, the whole dead tumor came away, leaving a pure granulating concave surface. Thus, in fourteen days, the diseased mass had been removed by a painless process. There remained of course a cavity to be filled up; but this was not large, because this application draws the sound parts so close round the slough, that they push it further and further, so that the hollow is not as big as the tumor, which was removed from it.

On the 28th of February, the wound had healed, without any induration; and the patient left the hospital greatly improved in health, with a clear complexion, and without that peculiar ashen color of the conjunctiva.

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5. *On Iodine Injections in Uterine Hemorrhages.*—By M. Dupierris, of Havana, Cuba.—(North American Med.-Cir. Review, Jan., 1857.)—"A patient applies," says M. Dupierris, "laboring under chronic uterine hemorrhage, no matter how caused, whether by an organic affection or a functional derangement, I place her under the following treatment: The woman is put upon an inclined plane, prepared across the bed by means of the back of a chair turned upside down and covered with pillows. The feet are placed on chairs, and the patient is seated on the edge of the bed, or rather on a pillow, which terminates the inclined plane. After having covered her with a sheet from the breast down, I direct her to raise up her clothes, so as to remain covered by the sheet alone. I then grease the trivalve speculum (a modificatien of Charrière's,) and introduce it in the ordinary manner. Then I surround the instrument at its base with the edge of the sheet, which is crossed underneath and tucked under the seat of the patient. I give the handles of the instrument to the patient herself to hold. By means of a candle I examine the state of the os uteri. The latter, which is situated in the middle of the instrument, is cleaned of the mucus which generally adheres to it. It then presents its orifice ready to admit the end of the syphon or the syringe. An instrument of this kind, large enough to contain about an ounce and a-half of fluid is selected for this operation. I have affixed to it a silver probe about five inches long; the end of the probe is a little enlarged, like that which is used to cauterize the Eustachian tube. The syringe is filled with a mixture of tincture of iodine and water, in the proportion of one-third of the former to two-thirds of the latter. The end of the syphon is pushed up, as far as

possible, into the cavity of the uterus, and the injection administered with some degree of force. The liquid comes out of the uterus as fast as introduced, and is soon all expelled. The uterus is ascertained to have contracted from the circumstance that mucus is very often attached to the end of the instrument in the form of a rather large ball. The woman experiences occasionally a sensation of heat, and sometimes a slight pain in the hypogastric region. The injection is repeated, if necessary, at the end of three or four days. The next day the hemorrhage is found to have lessened; it diminishes the following day, and generally disappears on the third.

"I have resorted to this method of treatment more than a hundred times, and found but one case to resist it. This patient was an old lady, who had had uterine hemorrhage for many years."

PART III.

EDITOR'S TABLE.

THE MEDICAL SCHOOLS.

From the amount of matter which is now being published respecting the course of instruction in medical schools, it would seem that they are regarded as the head and front of the profesion. They may be said more truly to mould the character of the profession, and are, for that reason, for its weal or its woe. That there are defects in our present course of instruction, even those who pursue them admit; but how to get at a reform, is another question. Where shall reform begin? In one of our previous numbers we held up the private preceptor as the basis of the whole system; and we are prepared to assert and to maintain that, until there is a radical change here, there can be no well-founded change in medical schools. The preliminary education of every pupil is highly important for his future success. So essential is it, that in many literary schools none but *beginners* are taken. It is too true that the one or two years spent by many students in the office of a preceptor is lost time, serving only one purpose—that of counting so much towards the three years required for graduation. Two years in the office of a private preceptor, and eight months attending medical lectures. Now putting 100 as the standard of excellence in scholarship,—with most students, 25 will be the maximum attained in the office, while 33 will be a high mark for the medical college—leaving a balance of 42, or nearly one-half against him! and yet he is admitted to the honors of the profession.

Reform, therefore, should begin with the private instructor.

We propose, therefore, to do away with the instruction of the

office altogether, unless it can be made a systematic course; or rather to regard it *as nothing towards the time requisite for graduation.* The theological student may spend years under the teachings of his pastor, yet at Princeton or Danville, he has his curriculum of *three years study* to pass through before he is admitted to examination; and each annual course runs through ten months of the year.

In law there is the same ten months course for two years, if we mistake not, notwithstanding any previous proficiency the student may have made.

But in medicine—more intricate than either of the others—running over a wider field of knowledge—all of which is to be acquired—leaving no room for the play of the imagination, the whole amount of instruction of the student, in four-fifths, is narrowed down to two courses of four months each.

Thirty months with theology—twenty months with law, but only eight with medicine. And during those eight months two branches which cannot be learned by most students in the office, Chemistry and Anatomy, to be undertaken for the *first time* perhaps.

There should therefore either be a preliminary course of Instruction in our medical schools—or there should be established throughout the country *Primary Medical Schools* which should take this matter in charge.

Such schools could be established in every community—where there are at least three physicians of intelligence and talent. Let them refuse to take students separately, and only in their associated capacity. Let the association be held together by some compact which will ensure the faithful discharge of their respective duties. All students admitted to this instruction, should be entitled to a certificate of scholarship on those branches only upon which they shall have been found proficient. Thus systematized, good will result to the student and to the profession. Such associations might afford greater facilities than can be obtained in a single office—and one year thus spent before being admitted to the medical college will give the student such an insight into the profession as to make his way easier and more to

his profit. If this be deemed impracticable, then as in the other professions, regard private office instruction as nothing towards a diploma but extend the course of Instruction in medical colleges through three years—and *eight or ten months* each year.

The system therefore which we would propose would be this:

Primary Medical Schools—throughout the country—wherever three physicians will associate together for that purpose. The course of instruction in these schools to be so systematized as to begin at a certain time, and pursue a regular course. The student to be required to attend such institution for one year. The course to close with an examination, and certificates of scholarship in each study to be granted to such as may be entitled to them.

The Medical College, with two terms during the year, of 16 weeks each. The first course to begin about the 1st of Oct., and continue till the 1st of Feb., the second course to begin at the close of the first, and continue till June, when the commencement to be held and degrees conferred. The number of Professorships to be increased to eight, and thus designated and arranged,—

1. Anatomy, with Demonstrations.
2. Medical and Physiological Chemistry.
3. Principles of Medicine and Clinical Medicine.
4. Materia Medica and Pharmacy.
5. Principles and Practice of Surgery.
6. Practice of Medicine.
7. Obstetrics.
8. Diseases of women and children.

There would be advantages and disadvantages connected with a division of these studies into two courses. It should be so arranged that but three lectures would be delivered daily—one of which, twice each week, to be a clinical lecture. Each lecture to be preceded with a full examination of the whole class on the subject embraced in the lectures from some approved *text book*. Without the separation of the branches of study into two courses entirely, an arrangement might be adopted, by which the several branches might run into each other.

Thus beginning with anatomy, chemistry and physiology—four lectures on each during the week, the other two days might be devoted to Principles of medicine and Materia Medica. And as soon as the prescribed course on these branches had been performed—in their stead substitute Practice of medicine—obstetrics—surgery and clinical medicine. Thus the demonstrative branches will be taught during the winter, the season most suitable for them, while the practical will come in Spring and Summer when they can be most advantageously learned.

The main object in this change being to extend the term—and dispense with the cramming and crowding of five and six lectures into each day. In the Faculty of medicine of Paris the course of study which runs through *four years* is thus lald down.

1*st Year*—*Winter Session.*—Medical Chemistry and Pharmacy, Anatomy and Dissections.

Summer Session.—Medical Chemistry and Physiology.

2*nd Year*—*Winter Session.*—Anatomy and Dissections, Practical Chemistry—Surgical Pathology.

Summer Session.—Physiology—Clinical Surgery and internal Pathology.

3*rd Year*—*Winter Session.*—Pathology and Clinical medicine and Surgery—Dissections.

Summer Session.—Internal and External Pathology, Operative medicine, Midwifery and Clinical medicine.

4*th Year*—*Winter Session.*—Pathology and Legal medicine, Midwifery and Materia Medica.

Summer Session.—Materia Medica, Hygiene, Clinical medicine, Clinical midwifery, Clinical Surgery.

Students are examined at the close of each year so thoroughly that any defect renders it obligatory upon them to revise that branch of study.

By this it will be seen that it is not her Hospitals alone nor her men which have rendered Paris Institutions so eminent, but the thoroughness with which each branch of medicine is pursued.

With the same thoroughness and the same requisitions, both as to time and qualifications, New York could successfully vie with Paris, for there are her Bellevue and N. Y. Hospitals with Bed-

ford's Clinique, Sims' Hospital and other private Dispensaries, offering advantages to her three schools of medicine; so could Philadelphia with her four schools and the Philadelphia Hospital, (alas! poor Blockley;) so could New Orleans with her noble Charity Hospital and her two schools; so could Charleston; so could Mobile; so could St. Louis; so could Chicago, and so could others. But thoroughness is the great desideratum, and this is the basis of all reforms. Extend the terms—increase the number of Professorships—open the cliniques and hospitals—but it must be understood that no degree of Doctor of Medicine is conferred unless there is full qualification—such qualification as will give satisfaction to a Board of Examiners, composed of the entire Faculty, and so public that any who feel an interest in such things may attend, and

Such examination should not be exclusively verbal, but *demonstrative.*

Such a course would lessen the number of graduates, but it would elevate the grade of scholarship, and would possess a reflex influence upon the schools. Those professors who did not possess the *stamina* themselves, would be so overshadowed, that self-respect would compel them to resign their posts for other more qualified teachers.

These are our views, and we wait the result of the session of 1858.

Having been instrumental in bringing forward this subject of adopting a *system of medical instruction*, that shall be uniform, as far as the nature of things will admit, throughout the entire country, we have thought it our duty to say thus much in sustaining our Resolutions. We believe a reform to be called for—so do three-fourths of the profession throughout the Union. Most of the medical Journals are strenuous for a reform. The character of the profession loudly calls for it.

We have shown that reform must begin with the office—and recommend that, in place of instruction in a single office, it should be urged upon physicians to form Primary Medical Schools composed of not less than three professors. That instruction shall be pursued in them for one year.

That the courses of lectures in the medical college, shall embrace eight months of the year—two such courses being requisite for graduation, and that with this prolonged time, there shall be a corresponing thoroughness of teaching and of learning. The sum of the whole is *more time* and *greater thoroughness.*

AMERICAN CHEMISTS AND CHEMISTRY.

We have often said that there is a sad deficiency in the character of the chemical instruction imparted to our medical students. It is too scientific, too general—and not sufficiently adapted to the practitioner of medicine.

The science of Chemistry admits of several divisions:

1st. General Chemistry, which is to the science as a branch of Natural History and considers exclusively the general laws and operations taking place in the laboratory of Nature.

2nd. Agricultural Chemistry—which relates to the application of the principles of chemistry to agriculture, consequently in such works, after a few short chapters on the general principles of the science, the authors proceed at once to speak of the organic constituents of plants, showing their characteristic properperties, the source whence they obtain their organic elements—how and upon what they subsist—and what chemical changes take place in the substances upon which they live. They also treat of the nature and origin of soils and the modes by which they may be improved and rendered fit for the cultivation of the various fruits of the earth.

3rd. Applied Chemistry—or its relation to the arts, presumes upon the acquaintance of the student with the principles of chemistry—for such writers as Porter, and Knapp, and Regnault and Ure proceed at once to discuss such subjects as acids and alkalies—pottery and porcelain, soaps, candles, and glass. It also relates to metallurgy and the principles by which the metals are constructed into the thousand forms for the purposes of life.

4th. But *Medical Chemistry*, that which concerns the medical student, but which, at very few institutions he is able to receive,

is the application of the general principles to medicine, to pathology, to physiology. It takes up the subject of Heat, not for the purpose of showing its effect on the steam engine, but to elucidate the principles of hygiene—to show the influences, by the barometer and thermometer, of changes of the weather upon the human constitution. It takes up electricity and magnetism, not as philosophical agents, but as remedial, not as a mere pastime for the student, but to show him the nature of an agent which pervades the Universe, and influences men in health and in disease. It takes up the gases, to show what part they have in the life-sustaining processes, as parts of air, earth, fire and water. It takes up the metals as affording valuable medicinal agents and by tests of various kinds teaches us how one medicine may be distinguished from another. It detects for us base adulterations —at same time teaches us the preparation of the pure and genuine. But it goes still further. Medical Chemistry entrenches upon the domain of the physiologist, and opens up to his view the character of the healthy secretions, and their origin. It analyses for him bone and sinew, muscle and integument, gland and tissue, secretion and excretion. It still goes further. The pathologist calls in its aid to detect the origin of sugar in the urine, of salt in the tears and saliva, and of bile in the blood—so that in disease it stands as the analyst as well as in health. It is the aplication of the principles of chemistry to these studies that medical students want—*but which they have failed to receive.* They do not wish to become scientific chemists, for if so, they would go to the laboratory of the literary college. They do not wish to learn agriculture or the mechanic trades, or else they would go to the laboratory of those chemists opened for this express purpose. But they frequent the laboratory of the medical college, to learn the chemistry of medicine, to learn to detect adulterations, to learn to analyze, to learn the rationale of all those influences more extensively carried on in the great laboratory of nature, and the why and the wherefore of the changes which take place when the healthy frame succumbs to disease.

This is medical chemistry; and who are the men into whose hands the teaching of it is entrusted? We take the names as memory recalls them:

George Hadley, M.D.....Castleton Medical College, Vermont.
" " " .....University of Buffalo, New York.
Samuel St. John, M.D.....College of Phys. and Surgs., New York.
Benjamin Silliman, jr., M.D.....Yale College.
B. Howard Rand, M.D..... .....Philadelphia College of Medicine.
J. L. Crawcour, M.D.....New Orleans School of Medicine.
H. E. Foote, M.D.....Medical College of Ohio, Cincinnati.
M. P. Scott, M.D.....Medical College of Virginia, Richmond.
John J. Reese, M.D.....Pensylvania College, Philadelphia.
Robert Peter, M.D.....Transylvania University, Lexington.
J. Lawrence Smith, M.D.....University of Louisville, Kentucky.
T. G. Wurmley, M.D.....Starling Medical College.
E. S. Carr, M.D..... ....Albany Medical College, New York.
C. U. Shepard, M.D.....Medical College, Charleston, S.C.
Joseph Jones, M.D.....Savannah Medical College.
J. B. Lindsley, M.D.....University of Nashville.
John Millington, M.D.....Memphis Medical College.
R. O. Doremus, M.D..... .....Medical College of New York.
John W. Draper, M.D.....University of New York.
Jules LeHardy, M.D.....Ogletorpe Medical College, Savannah.
J. L. Riddle, M.D.....University of Louisiana, New Orleans.
Franklin Bache, M.D.....Jefferson Medical College.
Robert E. Rogers, M.D.....University of Pennsylvania.
C. W. Wright, M.D.....Kentucky School of Med., Louisville.
A. Means, M.D.....Medical College, Augusta, Ga.
" " .....Atlanta Medical College.
S. H. Douglass, M.D.....University of Michigan, Detroit.
J. V. Z. Blaney, M.D..... .....Rush Medical College, Chicago.
A. Litton, M.D.....St. Louis Medical College.
A. Hopton, M.D..... .....Missouri Medical College.
John Bacon, M.D.....Harvard Medical College.
John Towler, M.D.....Geneva Medical College, New York.

Who of these thirty chemists are fulfilling the aim of connecting the science of chemistry with that of medicine? Who of them confine their lectures and instruction to the application of the science to the discovery, treatment and cure of disease? To do this in a manner becoming the station which they occupy, the next question arises, who of them are educated as physicians? Out of the whole number we know of only *three* who are engaged in the practice of medicine! We are familiar, through the exchanges which monthly come to our table from all parts of the Union, with the names of all those chemists who contribute the results of their investigations to the profession, and there is a lamentable deficiency in this branch of the literature of medicine. During the present year, only one out of the thirty has communicated the fruits of his labors for the medical press. To his honor be it said, that one was Isaac L. Crawcour, M.D., of the New Orleans School of Medicine. But although the

schools have done so little, yet there are numerous valuable contributions from others outside of them. Why this dearth in our chemical literature, while nearly every prominent European Journal has its full complement of communications of medico-chemical investigations. But the fact is, our professors of chemistry are exclusively chemists, and the course which they pursue is more applicable to the arts and to agriculture, than to medicine. A glance at the text-books on chemistry recommended by each of these professors is a sufficient index to the character of their instruction. It is Silliman, or Fownes, or Regnault, or Draper, and not one time Lehmann or Bowman. Shall this state of affairs continue? It would be as well, rather than that it should, to lop off this department from the medical course. This is one of the things which needs reforming, and before medical education in America has attained the stately proportions which it has acquired in England, or Paris, or Prussia, the change has to be made.

MEDICAL GOSSIP.

—— Any one desirous of purchasing a perfect Barometer, Thermometer, and Hygrometer, can get them cheap by addressing the editor of this Journal. In view of the meteorological observations recommended by the East Tennessee Medical Society at its last session, this is an opportunity for some physician to procure these instruments, rarely afforded.

—— Dr. E. R. Squibb—Prof. J. Lawrence Smith.—We learn from the *American Journal of Pharmacy*, that Dr. E. R. Squibb, whose article on chloroform we select for our Monthly Record, and whose contributions to the medical press are valuble and frequent, has withdrawn from the United States Naval Laboratory, at Brooklyn, in order to accept the position of manufacturing copartner in the firm of Thomas E. Jenkins & Co., of Louisville, Ky. The object is to establish a large manufactory of chemical and pharmaceutical preparations, under the title of

"Louisville Chemical Works." Prof. J. Lawrence Smith, of the Chemical Department of the University of Lousville, is also a partner, and will have charge of the financial department—while Mr. Jenkins will take the commercial department.

—— The November number of the *Journal* will contain the proceedings of the annual meeting of the East Tennessee Medical Society—which meets in this city on the 20th inst.

—— *Recognition of Merit.*—We find the following in the Philadelphia *Press:* "The Professorship of Natural Philosophy, in the University of Glasgow, (Scotland,) lately became vacant. Candidates were duly advertised for. A great many qualified persons sent in their application and testimonials. Among them was Prof. Rogers, of the United States, who had the honor of being elected on the principle too long neglected everywhere, but particularly in Great Britain, of putting "the right man in the right place." His being an American was no barrier to the recognition of his merit.

Prof. Rogers was present at the recent brilliant meeting of the British Association for the Advancement of Science, held in Dublin, early in the present month. The University of Dublin, which is particularly chary in the distribution of its honors, conferred the degree of Doctor of Laws upon few persons on that occasion, and Prof. Roger was one of the recipients. On the 5th inst., by special invitation, he was one of the members of the British Association, who visted the Earl of Rosse, at Birr Castle, Parsonstown, and examined the Monster Telescope, which is at once one of the scientific wonders and triumphs of the age.

This election of an American scholar to a Chair in one of the great European Universities, shows a fine catholic spirit of fairness, which, we rejoice to say, is the fruit of our own previous conduct in this respect. South Carolina and New York had previously called Dr. Francis Lieber, a Prussian, to Professorships in their Universities, and Louis Agassiz, the eminent French naturalist, had successively been Professor at Harvard

College and the University of Charleston. Knowledge has its birth-place in heaven, draws its nobility from God, and has its abiding place in no particular locality, but the world."

—— A strong infusion of the common raspberry leaves is said to act decidedly as an ovifuge, powerful uterine action coming on in a few minutes.

—— A decoction of lilac leaves acts as an excellent febrifuge.

—— Prof. T. D. Mitchell is about putting out a new edition of his very popular work on Materia Medica and Therapeutics.

—— We see it stated that Dr. F. W. Sargent of Philadelphia, has gone to Rome, Italy, to practice the profession of medicine. Drs. Gibson and Mutter are also there for the benefit of their health.

—— *Robin the Microscopist.*—One of the most distinguished medical savants in Paris, at the present time, is Robin, the microscopist. He is described as deathly pale, thin, serious looking young man, of about 34 years of age. His whole life is devoted, by means of the microscope, to the study, the demonstration and classification of morbid tissues. There is scarcely a cancer excised at Paris, nor a doubtful post mortem examination made, that Robin and his microscope are not consulted, and his word is authority.

—— *Dr. Marshall Hall's Ready Methods.*—We have given a large space in our selections to the "Ready Methods" proposed by Dr. Hall, and we feel assured their value will cause them to be highly appreciated.

This distinguished physician is now among the illustrious dead. His course in life was a brilliant one; no obstacle being so great that he did not overcome it in his investigations in physiology and medicine.

As a monument to his memory, we publish the Ready Methods all together in a previous part.

—— *Strychnia in Whisky.*—A valued correspondent has sent us the following note, which we willingly publish, being ourselves much interested to know how strychnia, *if* used in making whisky, can either increase the quantity derived from a certain amount of grain, or aggravate the essential symptoms of *delirium tremens:*

"A statement has been going the newspaper rounds, on what authority your correspondent does not know, to the effect that the physician to the almshouse at Lawrence finds delirium tremens more fatal than formerly, in consequence of the *strychnia* used in the manufacture of whisky. If that gentleman has any evidence of the fact that strychnia exists in whisky, he would much oblige members of the profession by giving it to the public through your pages. If strychnia is used in the manufacture, it would be interesting to know the reason why. A full report of cases of delirium tremens in patients who were also under the influence of strychnia, would prove instructive."—*Boston Med. and Surg. Journal.*

—— *Treatment of Sore Nipples.*—A friend whose judgment and experience entitle his opinion to much consideration, assures us that equal parts (by weight) of glycerine and tannin is the best application for sore nipples which he has used. It is also an excellent remedy for chaps and excoriations of other parts. The tannin dissolves readily in the glycerine. We hope this formula will be as widely known as the celebrated tincture of benzoin cure, which has, we believe, been quoted in every medical journal in this country.

—— *Pathological Specimens.*—Dr. Groadby uses the following mixture for the preservation of fresh anatomical specimens: Rock salt ʒij; nitrate of potash (to preserve color) ʒij; boiling water ℥iv. Mix and filter. This is said to be far superior to alcohol, and the color of the preparations is better preserved.—*Western Lancet.*

—— *Granular Lids.*—Dr. Pitcher, of Detroit, applies with a

camel hair brush a solution of iodide of zinc: ℈i to ʒi to the ounce of water. The application is not to be repeated oftener than every second or third day. We are now using the perchloride of iron in these cases, and have been much pleased with the results. Before using it, we freely scarify the lids. Even in its undiluted state, it has produced but trifling pain.— *Western Lancet.*

PAMPHLETS—BOOKS—EXCHANGES.

We are indebted to authors and publishers for the following,—

The Transactions of the New Hampshire Medical Society, (67th anniversary) held at Concord, June, 1857. Report of the Committee on Surgery. By GEORGE H. HUBBARD, M.D. (From the author.)

Proceedings of a Convention of the Trustees on a proposed University of the Southern States under the auspices of the Protestant Episcopal Church, together with a Narrative and Address by Rt. Rev. Jas. H. OTEY, D.D. (From the secretary Dr. H. C. Lay.)

Dr. HORACE GREEN On the Introduction of the sponge-armed Probang into the Larynx and Trachea. (From the author.)

Lesions of the Epiglottic Cartilage, by the same.

A Collection of remarkable cases in Surgery. By PAUL F. EVE, M.D., Prof. of Surgery in the Medical Department of the University of Nashville. Philadelphia: J. B. Lippincott & Co. Nashville: W. T. Berry & Co., 1857. We are under obligations to the publishers for the foregoing work.

In accordance with the motto of the work, one of the sayings of Fredrick Hoffman, *ars medica tota observationibus*, the plain English of which we take to be that *observation makes the physician*, and of the other by F. J. V. Broussais, that *medicine is enriched only by its facts*, our author has thrown together under a systematic arrangement such details of *remarkable cases in surgery* as he has been able to collect from the Journals of his own country and of Europe. He gives but very few of his own cases, preferring that others should occupy the place which many would have taken to themselves. But we hope that this volume, em-

bracing the labors of many distinguished surgeons, and of others not so distinguished, will be followed by one detailing, under a systematic arrangement, the author's own surgical practice. Such a work would be highly prized by his students and friends. In that work may we suggest still further that a chapter or section be devoted to giving plain directions to the young surgeon in entering upon practice, such as the successive steps in performing amputations, the preparations necessary, the after-treatment; also a description of the different kinds of bandagings, splints, &c., in fractures. A few plain practical suggestions on these points will be of service to young beginners, and we know of no work that presents them.

This work of Prof. Eve contains 850 pages, and is gotten up in good style. It will be excellent as a book of reference for similar cases.

We learn that it may be obtained of Hanigan & Co., and of J. A. Rayl, Booksellers in this city.

Several changes have taken place in the editorial departments of many of our exchanges which we have omitted to notice.

Dr. E. D. Fenner is now associated with Dr. Brickell in editing the *New Orleans Medical News and Hospital Gazette*, Drs. Beard and Choppin having withdrawn; all of these gentlemen are connected with the New Orleans school of medicine.

The proprietorship of the *New Orleans Medical and Surgical Journal* passes into the hands of Drs. Stone, Jones and Chaille. The editorial chair will still be filled by Dr. Bennett Dowler.

The *Medical Independent* is now edited ably by Dr. Gunn Prof. of Surgery in the University of Michigan, in connection with Dr. Robinson.

Dr. Stephen Smith is now sole editor of the *New York Journal of Medicine.*

Prof. Samuel F. Wright, M.D., takes charge of the *Memphis Medical Recorder.* He is a ready writer.

OBITUARY RECORD.

Dr. WILLIAM H. DEADRICK.

We are called to record the death of Dr. William H. Deadrick, of Athens, Tenn. He died on the 30th inst., at the advanced age of 75 years.

For half a century, Dr. Deadrick has been engaged in the practice of medicine, having graduated at an early age, and entered upon the profession at Rogersville, Tenn.

The character of his practice may be inferred from having undertaken the novel operation, in 1810, of removing a portion of the submaxillary bone for exostosis. The boldness of this operation, as well as its success, gave Doctor D. a name and a reputation as a surgeon of no mean degree, and which he had only to follow up to have placed himself at the head of the profession. But his natural retiring disposition induced him to remain quietly in the enjoyment of his then *backwoods* practice, and to be content with the confidence of his own circle of friends and relations.

But this one operation has imprinted his name upon the records of American Surgery—especially since, with him, it was no hap-hazard case—but one directed by reason and judgment. For many years Doctor D. has lived at Athens, Tenn., the latter part of which was in partial blindness. He died, as he had lived, a devout christian. Only four days previously had an aged stepmother preceeded him through the Jordan of death—both relying upon Christ as their staff while walking through the valley of the shadow of death, and who when asked, Do you feel supported in these last moments, replying with firmness, wonderfully, wonderfully.

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PART I.

ORIGINAL MEMOIRS AND CASES.

PROCEEDINGS OF MEDICAL SOCIETIES.

ART. XIX.—*Report of the Proceedings of the East Tennessee Medical Society* during its Twelfth Annual Session held in the city of Knoxville, Oct., 20, 21, 1857.

October, 20th, 1857.—The East Tennessee Medical Society met in annual session in the vestry of the Presbyterian Church at 7 o'clock P.M.

In the absence of the President, Dr. Samuel Pride of Maryville, the chair was filled by Dr. James Rodgers Vice President, and Dr. C. W. Crozier was appointed Secretary *pro tem.*

Dr. S. H. Dickson, of Knoxville, and Dr. J. G. Brown, of Cleveland were nominated for membership and elected.

The report of the Treasurer was received and adopted.

The following officers were then elected for the current year:

President—Dr. R. H. HODSDEN, of Sevierville.

Vice Presidents—Dr. FRANK BOGART, of Tellico, and Dr. W. R. HURLEY, of Knoxville.

Corresponding Secretary—Dr. Richard O. Currey, Knoxville.

Recording Secretary—Dr. O. F. Hill, of Knoxville.

Treasurer—Dr. James Rodgers, of Knoxville.

Dr. Hodsden on taking the chair remarked that he felt thankful for this expression of the confidence and kindness and professional regard of the members, and he would use his best endeavors to officiate as President of the Society and otherwise to promote its interests.

Reports of committees on Epidemics appointed last spring being in order,

Dr. Jno. L. Atlee reported that no epidemic had prevailed in McMinn county during the past year with the exception of the present general catarrhal fever.

Dr. Hodsden reported no epidemic in Sevier county—it being a healthier season than usual.

Dr. Bogart reported Monroe county also as being free of epidemic diseases during the year.

Dr. B. K. Mynatt made the same report in reference to Knox county, with the exception of the present influenza.

[The present influenza is of a catarrhal character assuming a variety of forms and grades. It is very general, giving rise to some pleurisies, pneumonias, catarrhs, rheumatism, cerebral irritation and spasms from such excitement. In the majority of the cases which the Corresponding Secretary has been called upon to treat, the pleuritic or pneumonic affection, has in a large majority of the cases, been on the right side, attended with a very rapid, weak pulse—varying from 100 to 160. In many cases, there is severe headache, with aching of the limbs and spine; constant hacking cough—with greater or less pain in side. In one case an infant, spasms supervened, which were promptly relieved by pouring cold water on the head and immersing the lower extremities in a hot mustard bath.

The epidemic may be traced to a change in the condition of the atmosphere arising from the cold rain which succeeded to the long dry warm spell of August and September.—Cor. Sec'y.]

Dr. W. R. Hurley submitted the following resolution which on motion was made the order for to-morrow morning:

Resolv ed, That a committee of one or more for each county in East Tennessee be appointed to report on the topography of his county or neighborhood, the kind of water used for drinking—the size and character of the water courses, the temperature of the atmosphere (throughout the year?) the amount of rain and the condition of the atmosphere by noting from the barometer; the diseases most prevalent at any particular period whether malignant or not, the treatment and the result.

[It is presumed that Dr. Hurley has reference to the influence of meterological changes upon health and disease, and it is certainly a subject worthy of the investigation of all. The instruments necessary for recording such observations will be a rain gauge, for which any vessel will suit, the sides of which are perpendicular to the base, and with a scale graduated in inches, placed in an open exposure; a thermometer, to denote the temperature, and for regularity of observation we would suggest the hours of 7 A.M., 2 P.M., and of 9 P.M., a barometer to ascertain the density of the atmosphere, and a hygrometer to ascertain the quantity of moisture in the atmosphere and consequently the dew point. Health is influenced by the changes which take place in the atmosphere and these changes are indicated by these instruments.—Cor. Sec'y.]

On motion of Dr. Currey it was

Resolved, That a memorial be transmitted to the Legislature, signed by the officers of the society, asking for the passage of a law permitting physicians in all cases, where they are prosecuted for mal-practice, to give testimony in their own defence as to the nature of the case and the treatment pursued.

Society adjourned till to-morrow 9, A.M.

October, 21st, 9, A.M.—The morning session was fully attended, and was presided over by Dr. Hodsden.

Dr. F. A. Ramsey proposed the following resolution which was adopted:

Resolved, That whereas the practice of making post-mortem examinations by medicines of East Tennessee is too much neglected, the members of the society and the body of general practitioners of this division of the State, be and are hereby requested earnestly to solicit the privilege, and efficiently to prosecute post-mortem examinations.

Dr. Richard O. Currey offered the following resolution which was adopted:

Resolved, That in view of the importance of pathology, and the value of pathological specimens, this society will establish at this place a pathological and

anatomical museum, and that the members of the profession be requested to contribute to it: That said museum shall be under the charge of an officer who shall be elected annually for that purpose, and shall receive and preserve all specimens thus contributed and keep them accessible to the members of the society at all times.

Dr. Ramsey then moved that the officer created by the foregoing resolution be and is hereby made one of the standing officers of the society, who shall be elected by ballot, and known as the "Curator of the Pathological museum."

The rule being suspended, the resolution was adopted and an election being held,

Dr. Richard O. Currey was elected Curator for the ensuing year.

The Report of the Committee, on Registration of Marriages, Births and Deaths, was read by the chairman Dr. W. R. Hurley and received.

A resolution was adopted requiring the officers of the society to prepare and present to the Legislature a memorial on this subject.

The resolution of Dr. Hurley last evening was taken up discussed and adopted,—

And the following members appointed on said committee for each county: Dr. Samuel Pride, of Blount; Dr. B. Frazier, of Bledsoe; Dr. J. T. Jones, of Hamilton; Dr. Goodman, of Polk; Dr. W. N. Bicknell, of Monroe; Dr, J. A. Long, of McMinn; Dr. R. Birdwell, of Sevier; Dr. R. Sneed, of Jefferson; Dr. S. H. Dickson, of Knox; Dr. J. S. Abernethy, of Roane; Dr. T. J. Coward, of Anderson; Dr. A. Carmichael, of Hawkins.

Society adjourned to meet to-night at 7 o'clock.

EVENING SESSION.

October, 21st 7, P.M.—The society being called to order,—

On motion the society listened to the address of Dr. R. H. Hodsden, of Sevierville, after which

It was ordered that the Treasurer be authorized to examine and settle the accounts of Messrs. Kinsloe & Rice.

The Report on the Surgery of East Tennessee being called

for, it was presented and read by Dr. Richard O. Currey chairman of committee.

Dr. Ramsey moved that the Address of the President and the Report of the Committee on Surgery be filed among the papers of the society, and that they be published in the *Southern Journal of Medical and Physical Sciences.*

Dr. Currey as Curator of the Pathological museum reported that he had received several specimens for the museum.

Dr. Currey offered the following resolution:

Resolved, That a committee, of which Dr. J. G. Brown to be chairman, be appointed to prepare a Report on the Epidemic Diseases of East Tennessee, to present at the annual session in Oct., 1858.

Dr. Brown was called upon for a statement of the Epidemic which has been prevalent for some time in Bradley county.

Dr. Brown: It did not occur to me Mr. President, that I would be called upon for such a statement or else I would have been careful to have arranged my thoughts previous to this meeting. The epidemic, to which Dr. Currey alludes, is regarded as one of the throat, being of a putrid character, and is supposed by some to be scarlatina malignosa. There is excessive putridity accompanied with great fetor. It is confined principally to children though I have seen no case that was under six months of age. There is hoarseness; high fever; enlargment of tonsils which are very red and highly inflamed at first, then covered with crude-like specks, or exudation; there is a great flow of saliva, as if the patient was salivated, and the cases terminate fatally in the course of three or four days. Previous to death the exudation increases; ulcers appear in mouth; the usual passages become affected, first discharging muco-purulent matter, which eventually becomes bloody; the eyes become highly injected, appearing as it were lumps of blood in the sockets. There is not much eruption of the skin, appearing in only one case in ten. It is in fine points with intervening white surface. They make their appearance on first day, and are generally diffused all over the body at the same time. There is no regularity. The proportion of fatal cases was one in ten.

Treatment.—The throat was in the first case cauterized with

a strong solution of nit. silver, emetics administered, poultices applied to throat mustard plasters. But I felt inclined to change the caustic application and substitute in its stead diluted muriatic acid; with this I thought the cases were more manageable, I also used mur. tinct. of iron with like good results.

Dr. Currey: During the Summer the lady of one of our merchants made a visit to Bradley county taking with her, her two little boys. On returning home, the eldest of the boys was taken with a high fever, and a rash of a red diffused character developed itself. Being called in, I made inquiry as to the probability of the child being exposed to the influence of scarlet fever, and learned that in the family with whom she staid, there were several cases of putrid sore throat, and also learned for the first time of the epidemic just described by Dr. Brown. This case regularly developed itself as a case of simple scarlet fever, the eruption being on a reddish surface. He recovered in due time. Eight days afterwards a young lady staying in the family, who went into the room but once, also presented symptoms of the eruptive disease in every respect scarlet fever. With her there was some putridity of throat and very offensive, which strong lunar caustic solution corrected in a few days. She gradually recovered without any unpleasant symptoms. Now the question occurred to me did this first case, which proved itself contagious, have any connection with the cases of putrid sore throat in Bradley county, if so was it not rendered milder by an early removal from the contagious influence of the epidemic? and if so, were not the cases in Bradley also scarlet fever? Meeting with Dr. Brown and Dr. Thompson, about that time in Cleveland, I instituted these queries, and would like to ask Dr. Brown whether he afterwards noticed any symptoms which would favor the idea of that being an epidemic of scarlatina?

Dr. Ramsey: Did you say, Dr. Currey, that your cases presented a reddish, flushed surface. If so Dr. Brown states that in his the interstics were whitish.

Dr. Brown: I did examine carefully, after Dr. Currey's visit to Cleveland, to see whether any, even the smallest symptom of scarlet fever were present, but failing to do so regarded the dis-

ease as different. There did not seem to be much contagiousness about the cases, though it is true several members of the family were generally attacked, yet cases occurred which were not exposed directly to the contagion.

Dr. Currey: Coming from that county, and only a few hours ride on the railroad, and no cases of scarlet fever whatever being at that time in this city and none since, induced me to believe that the disease was contracted there, and with the exception of this epidemic, there was no other source where the child could have obtained the contagion. There were many reasons for supposing that the epidemic in Bradley county was that of scarlet fever of a malignant character.

On motion the election for orator for the semi-annual session was held and resulted in the election of Dr. Wm. R. Hurley, of Knoxville.

Dr. Ramsey moved that the Committee on Surgery be continued with the same power and objects for the ensuing year.

Dr. Ramsey also offered the following resolution:

Resolved, That there be constituted a Committee of three on Chemistry in its relation to Medicine, Pathology and Therapeutics, of which Dr. Currey to be chairman and the others to be appointed by the President, and that they report at the semi-annual session in April.

On its adoption the President added Dr. F. A. Ramsey and J. L. Atlee to the committee.

A Committee of Arrangements for the semi-annual session in April, consisting of Drs. Hurley, Crozier and Rodgers, were appointed.

It was also moved that the Committee on Surgery be permitted to insert in their report, any aditional case which might be transmitted to them previous to its publication in the *Medical Journal.*

The society adjourned to meet in its semi-annual session on the first Tuesday of April, 1858, in the city of Knoxville, Tenn.

ART. XX.—*Report of the Committee on Registrations, &c.*—By Dr. W. R. HURLEY Chairman.

Your Committee have had under consideration, the resolution passed by the last semi-annual meeting of this society, pointing to the adoption of a general system of Registration of Births, Deaths and Marriages, we beg leave to submit the following:

At all periods and in almost every country, it has been regarded as occasionally necessary to have some sort of estimation of the *number* of people. Among the ancients, this estimation, in most instances, had reference to the revenue or military service. At a later period we find, in most countries with any pretensions to civilization, a very decided appreciation of the importance of correct knowledge regarding the age, sex, condition, occupation and numbers of the people. But in more modern times, extending to the present, we have this important branch of knowledge, reduced to the perfection of science and may be denominated the *science of statistics.*

We do not propose a barren array of figures, and tables, but a *ledger of the State*, all carefully and accurately posted up, so that any citizen may (with but little trouble) see the true sanitary condition of a part or the whole State, make his own deductions by comparing one year with another or one place with another, and that from reliable facts and figures. In this way we arrive at the moral and social condition of the citizens of our State, are furnished with ample material for deducing the soundest rules in the administration of government or in promoting the welfare of society.

Your Committee has not deemed it a part of its duty to suggest any particular plan, or any particular office of the state or county, to meet the wants and wishes of the society but leave the details to the Legislature of the State, whether it would be proper to create a statistical bureau, or whether the present officers created by existing laws, or whether special commissioners should be appointed, does not come within the province of your Committee.

A general census of the United States has been taken every

ten years beginning with the year 1790. Every census has been an improvement on the one preceeding unto the last, which approximates more nearly to the wants of the people than any former one. Yet your Committee would suggest, that as a *State*, with individual interests to subserve we would ask the Legislature of our State to adopt a system of its own, as other States of the Confederacy are and have been doing. Massachusetts organized her system in 1842, New York in 1847, New Jersey in 1848, Connecticut, in 1846, Pennsylvania in 1849, and Kentucky in 1852. The Legislatures of South Carolina and Louisiana have the subject before them, and we trust all the Southern States *especially* will take early action on the subject. There are many points of view in which a well digested system would be of interest to our profession as well as the enlightened statesman and philanthropist. We would be able by reference to the Register to ascertain the ratio of births to the number of persons living at any time, for instance, the Massachusetts report of 1850 shows one birth for every forty-two persons—while in England for five years from 1839–'43 shows one birth to 31; in France one to 31, in Russia, one to 36, Prussia and Austria one to 26, and in the city of Boston one to 27. In some States the *month* of birth is given as well as the year. The sex, color, whether free or slave, whether parents are native or foreign born, whether natives of the State, whether emigrants from other States, &c., &c., would be important.

The ratio of marriages to the numher of persons in the State of Massachusetts one 102 while in the city of Boston it was one to 64. In England there is one marriage to 130 inhabitants, in France and Austria there is one in 123; in Prussia one 110. Your Committee would suggest under this head that it would be highly important that the age of the parties marrying should be given, and whether it is a first or second marriage, and whether the parties were native or foreign born.

According to the last census of the United States there is one death for every 72 persons in the Union. But the ratio varies very much in different States. Oregon one in 283; California one in 102, and Louisiana one in 44. The Massachusetts report for 1849–'50–'51, one in 51.

If a good system can be adopted, very valuable information will be obtained. Under this head we hope to learn at what age we have the greatest mortality; what occupation in life is most healthful; what circumstances are conducive to longevity or at least an approximation to it. But to recapitulate—your Committee would suggest to effect the desired end, and obtain the information sought, that we could not recommend a better system than the 12th report of Massachusetts, or something like the following:—Knox county, for instance: Whole number of births—sex; male; female; unknown. Parentage—American; foreign; unknown. Marriages—American; foreign; unknown; occupation; age of man; age of woman. Deaths, aggregate—male; female; unknown; age—under one year; one year and five; five and ten; ten and under twenty, and so on. Occupation—native or foreign-born; and colored, free and slaves. Other tables might be added to show the months of births, deaths and marriages; also showing plural births, still-born, blind, deaf and dumb, in sane and idiotic, with full accurate reports as indicated, and contemplated by a law for Registration, setting forth the vital statistics of our State. Our society and others in the State will have some reliable data, from which to make valuable deduction in a sanitary review of the State. The different medical societies will appoint county committees to report the epidemics prevalent in their respective counties, the topography of their counties or neighborhoods, the soil, water courses and their character, water whether free or limestone. The temperature carefully noted, the amount of rain by inches, barometrical observations; and in short everything that would have the least influence on the physical economy in their respective counties or neighborhoods. In this way we will be enabled to judge more definitely as to the cause of any particular epidemics, and perhaps be able to adopt valuable sanitary regulations, or at least have an array of facts, which will relieve us from the mazy labyrinth of hypothetical discrepancy in which we have so long been groping.

For want of such facts, the best informed of our profession often commit very egregious blunders in giving opinions as to the cause of disease, and the consequence is, our noble and honor-

able profession suffers in public estimation, subject us to severe censure. By some we are accused of conjecturing, guessing and groping in the death. By others that the science of medicine scarcely deserves the name of science because of a want of agreement among the members of the profession. Your Committee would take occasion here to express their strong disapprobation of the habit of some of our profession in giving opinions of the *cause* &c., of the disease from too slight testimony and in this way give currency to opinions, for which our profession is in some degree responsible and thereby bring the *science* into disrepute. Should the Legislature of our State pass such a law as contemplated by the resolution, we will have within our reach such an array of facts as will enable the honest searcher after truth in our profession to give definite opinions from reliable data. Your Committee would in conclusion ask the Legislature through you to pass at its present session a law providing for an annual report of Births, Deaths and Marriages in our State. Your Committee is fully aware of the indifference to this branch of statistics. That in this money-loving and money-getting age, the people care but little for the "numbers that die in any given period, their ages, their sex, occupation, condition and nativity and the causes which produce such deaths." We know that the food is valued more than the life and the raiment more than the body. The great mass are more interested as to the condition of banks, the price of stocks and the condition of commerce. The lawyer who saves his clients property is quickly and more cheerfully paid than the doctor who saved his life. Steamboat and railroad companies pay cheerfully for loss of a few boxes or bonds of merchandise, while "in human life they can and do wanton at pleasure." Yet in view of this apathy, we should not "stand all the day idle." We are in some degree the guardians of the life of our fellow men. We are then responsible if we do not seek by every means in our power to obtain information of every kind to make us *full grown men* in our profession, and thereby become public benefactors and a blessing to our race. Let us "ask, then, that we may receive."

ART. XXI.—*Report on the Surgery of East Tennessee.* By RICHARD O. CURREY, M.D., *Chairman*, Knoxville, Tenn.

Soon after the adjournment of the Semi-Annual Session last Spring, a circular was printed and distributed to every physician in East Tennessee whose address could be ascertained. The number mailed amounted to 330.

In the circular the objects of the appointment of your Committee was set forth to be to collect statements of all operations of a remarkable character, as well as to the treatment of surgical diseases. Thus information was asked as to the frequency of cancerous diseases and their treatment; to the frequency of calculous affections, and operations therefor; to the effect of our mountain climate upon surgical operations—especially of amputations of large limbs; and to the extent with which anæsthesia were used in surgery in our midst—what article, in what quantity, and with what results.

In response to this circular, communications have been received from fourteen physicians, detailing an account of fifty-two cases; and letters have been received from as many more promising assistance in contributing to this Report.

In the few preliminary remarks with which it is thought proper to prefix this Report, I propose to consder the following subjects:

1. Surgery as a branch of medicine.
2. The requisitions of the true surgeon.
3. Character of East Tennessee Surgery.
4. Narration of cases.

1. *Surgery as a branch of Medicine.*—The practice of surgery—or the art—looks back to the days of Celsius; but the science is of more recent date. It has not always had a connection with the science of medicine. It does not consist merely in operations upon the living subject with the knife or bistoury, but there is a PHILOSOPHY about it, which looks beyond the instrument, and takes cognizance of the nature of the disease, its pathology and treatment.

Thus it is that the Principles of Surgery stand at the threshold, and he who would seek admission into this Temple, must possess the talisman—a knowledge of the diagnosis of surgical diseases. We know that there are those who affect to ignore these things, even among those who stand eminent in the profession—and teach that experience is the best guide; but experience with them is based upon practice and observation, although their affectation is that of ignorance.

The surgeon, it will be admitted, has won greater laurels in his practice than has the practitioner of medicine; but it is because the immediate results are necessarily, from their nature, more striking than the patient and watchful care of one of

"The ills to which human flesh is heir."

There can be no delay, but prompt relief or death is the alternative. With the physician, who has to contend with disease of a protean character, the treatment is of that patient, expectant character that requires time for the manifestations of its results. Nevertheless, he is no less deserving; for could the case be reversed, it would be but a just appreciation of his untiring efforts to overcome disease, and promote the health and happiness of individuals, of families, of communities. For he who amputates an arm or a leg, does not, for that reason, possess more skill than he who treats a case of typhoid fever, and not so much as he who arrests pneumonia in its ravages upon the lungs—the former shows no more his knowledge of the human frame than does the physician. For while he only employs the knife to cut off the diseased member, visible to the sight, the other by timely remedies, the therapeutic action of which he has thoroughly learned, arrests the inflammatory process, and restores the diseased organ to its healthy, free action, relying alone upon symptoms which require the most extensive course of study and observation to understand and value.

Neither is the mere fact of the performance of an operation to be regarded as evidence of the superior skill of the performer. It requires greater knowledge to know when to operate, where to operate, and what to do after the performance of the operation.

When these points are determined upon, then the mechanical part of the work commences—the work of the knife, or bistoury, or scalpel—which requires but a firm hand and resolute heart to use. While, therefore, the art or practice of surgery is powerless without the hands to execute, the science of surgery affords the insight into the nature of those diseases requiring treatment, without which all her doings are the acts of chance.

It is medicine, therefore, with its philosophy, that has taken surgery by the hand and inducted it into the Temple of the Sciences, and it is this view of it which is now regarded by those men of renown who make it their peculiar study and practice.

While surgery, therefore, implies an intimate knowledge of the human frame in its anatomical structure, it also includes the functional relation of each part to the other, in health and in disease. In the surgeon, there is a happy blending of the anatomist and physiologist.

It implies, also, a knowledge of the principles of medicine; that pathological knowledge by which alone there can be gained a clear and distinct diagnosis of the nature and extent of the inflamed part, whether of muscle or bone, gland or tissue.

It implies a knowledge of medical agents; for the surgeon, in our country, cannot be the operator alone—he is necessarily the physician. As a science, too, surgery has reached that degree of perfection, that such mutilations with the knife, or with the actual cautery or caustic potass, are not practiced now as in days of yore; but a skillful and judicious medical treatment being all that is required for the safety of the patient.

These are parts of that science which embrace the whole as a unit, and which is itself embraced in the pyramid of the medical sciences—the basis of which is Truth, while every successive step upwards is replete with the endeavors of the human mind to promote Charity among all men, and administer the balm of hope.

2. *The requisitions of the true Surgeon.*—The true surgeon is, therefore, like the physician—the benefactor of his race; but lacking the qualifications necessary to render him such, he is but an operator, and, with the boldness characteristic of such, he is

capable of executing an immense amount of mischief, to those who are so unfortunate as to fall under his charge,—and thus to bring disrepute upon his profession.

Lacking these scientific attainments, he plunges with a desperation and a gusto into every case that presents itself, fully verifying the good old adage of the poet, who said long since, that—

> "Fool swill sometimes venture
> Where angels would fear to tread."

And in entering he has in many instances, sadly marred the beauty and harmony of the human form divine.

As an anatomist, the surgeon knows accurately the relative position of the different parts of the human system; as a physiologist, he has studied the healthy functions of the various organs and tissues; as a pathologist, he readily detects the extent and nature of disease; and as a therapeutist, he can point to that treatment which will cure, when possible, without resort to the knife or to the lancet.

He understands the influence of climate, and of season, and of locality upon surgical operations, and surgical diseases, and gives to his patient the advantages of all those influences. As an example, it is said that, notwithstanding all the care exercised in the cleanliness of wards, and skill of the best surgeons in the world, yet it is an exception when recovery results after capital operations in the city of Paris. This is true in regard to several places in our own country.

A knowledge, therefore, of these collateral influences should be possessed by the surgeon, or else he recklessly sports with human suffering and human life.

See then what a vast field of study and observation becomes the lot of those to cultivate who would distinguish themselves in the practice of surgery, and is it strange that so few, compared with the great number, have therefore acquired an enviable reputation in this department of medicine. Many there are who possess the qualifications indicated, and yet, for want of firmness and resoluteness, fail in bringing their superior knowledge to bear so as to ensure success, appearing before others less qualified,

but with more of what the world calls *brass*, as lesser lights. But whilst the one may for a while impress by boldness, the other will weave a chaplet which will be enduring.

The surgeon with these qualifications, must possess therefore others inherent to himself. It is said that he should possess a lady's hand, an eagle's eye and a lion's heart—three characteristics very expressive of the delicacy and gentleness with which he should approach the bedside of the sick, and the firmness and promptness with which he should investigate and decide upon his course. The first will evince his sympathy and enlist the kind regards of the patient and surrounding friends, while the latter will inspire that full confidence which, of all men and of all transactions, the physician and surgeon need to ensure success. His entrance into the room of the suffering will itself command respect, and as he proceeds in his investigation he avoids all useless exposures, as well as laudation of himself, of what he is capable of performing and has "a thousand times done." Has he an operation to perform, he makes no unnecessary display of fine edged instruments, especially in the room where he design operating, neither by unnecessary comments upon the sharpness and temper of them, and the manner of using them, endeavor to impress anxious friends and neighbors of his superior skill. He goes not to lecture, but to relieve the suffering, for every incautious word he may utter of such a character pierces deeper into the mind of his patient than his instrument can into his quivering flesh. Such a decidedly bad effect has such procedures upon the result of surgical operations that it is becoming the custom in hospitals not even to let the patient know when the operation is to be performed. Were we in charge of a surgical ward, it should be our constant aim to keep the time *when* from the knowledge of the patient; but deciding upon it, we would, as it were casually, at the appointed time, administer the anæsthetic, as if intending to use a remedial agent, and when the full effects were produced, remove him to the operating table, and do all that was to be done and restore him to his own cot before he was restored to sensibility. Such a course would obviate that distress and anguish of mind which is the inevitable attendant

upon all operations. Our object should be to steady the mind of the patient, and relieve his painful apprehensions. And yet in our limited observation we have seen such an array of knives and bistouries and forceps and tenacula made before the patient as to intimidate him, and awe even the stoutest of the spectators. We have heard needless comments in the private operating room, while the patient was yet wide awake, of the value of that case of instruments, of the sharpness of this knife, and the firmness of that saw.

But this display, unless it be done before a class of students, is not characteristic of the true surgeon; it is that of the *empiric*, who for a lack of knowledge, makes a show of appliances, manufactured by another, and which the butcher, without intending anything derogatory to that most useful class of every community—might use as adroitly.

But the true surgeon, alone and without any observation, selects his instrument, and only that one needed in the case, and, like the commander of a foundering vessel, his words are few but firm. His commands are given in that tone which ensures a prompt compliance. He regards the result as well as the means, and he knows that that result is mainly dependent upon the state of his patient's mind. His hand is steady, his acts deliberate, evincing no pomposity nor heartlessness, but leaving the impression on the minds of all around that it is not the *triumph of his skill, but that of the noble science which he personates.*

3. *Character of East Tennessee Surgery.*—The Committee regrets that a sufficient number of cases have not been forwarded them to enable them to form statistics with reference to the frequency of the different surgical affections. So far as their own knowledge extends, they are not aware of any particular tendency to any known affection of a malignant character.

Of calculous affections they have but one case to record. According to the prevalent theory, it might be supposed that our limestone valleys would be very favorable for their generation, especially as they have scarcely changed their occupants since the opening of the country, now more than a half century. But the springs which gush forth from our mountain sides are pure,

though highly charged with magnesian limestone—for the rock strata are generally of a semi-crystalline, not of an impure rotton character. And so of other affections—the healthfulness of our mountain homes—the comparative simplicity in the habits of our population both as to food and dress, the abundance of good wholesome food at all seasons, the steady industrious habits which characterize them, and the free, independent speech and action which they inherit, all contribute to render this entire valley as much exempt from prevalent affections of a malignant character, as any other portion of our country.

The surgery of East Tennessee is confined to no special locality; there is no central point toward which all eyes are turned, and to whose charge all patients wend their way. There is no one surgical genius who stands, like Saul, a tower of strength, above his compeers—for in the absence of this central point, each one of the three hundred and thirty physicians distributed through our mountain valleys feels himself fully competent to undertake and successfully treat all cases of a surgical character that may present themselves, and to this end they have generally made due preparation.

Many cases have originated which have required an originality of practice as well as a boldness of operation, which, resulting in success, have won for some of our home surgeons a character of no mean degree. Here first originated the practice of the removal of a portion of the lower jaw for exostosis—which has resulted in the production of a multiplicity of cases of a similar character of greater or less extent, for if a part why not the whole, and if one man could successfully perform it, why might not others.

Another of our surgeons, the detail of whose case, though promised, has as yet failed to reach the Committee, in operating upon aneurism of the femoral artery, cut close to the artery both below and above the sac, and ligaturing it, laid it open and dissected it out entirely. The same surgeon, being called upon to amputate one of the superior extremities, and having no other instruments, used his shoe knife for a catlin, his tenant saw, and the waxed ends of his shoe thread to tie the divided vessels, and

both patients recovered. How seldom too is it necessary to cut through the abdominal walls consisting of skin, aponeurosis, muscles, fascia, and through the peritoneum to remove the uterus and its appendages for a schirrous disease involving those organs, and yet when done, for the patient, without any unfavorable symptom, to recover, experiencing alone the unpleasant and unexplained symptom of a monthly return of the menstrual secretion, just as the man with the amputated arm will speak of the numbness or tingling which he feels in his fingers.

These are parts of East Tennessee Surgery—other cases there are of equal value and importance.

Although the Committee could have wished for a sufficient number of cases from physicians to elucidate the diseases and treatment in all the organs and members of the system, yet enough have been presented to admit of a classification according to the parts affected.

DISEASES OF THE HEAD.

In honor to Dr. Deadrick, the first of all surgeons who performed the operation for the removal of a portion of the submaxillary bone, we insert from the *American Medical Recorder* of April, 1823, pp. 516, 517, his own statement of this operation.

Case 1.—*Case of Removal of a portion of the Lower Maxillary Bone.* By WM. H. DEADRICK, M.D., of Rogersville, (now of Athens) Tenn.—Having lately been informed by a medical friend, that a surgeon of New York had not long since, performed the operation of removing a portion of the inferior maxillary bone, which he supposed to be the first of the kind, I have concluded that an account of a similar case might not be unacceptable to the readers of your Journal.

On the 6th of February, 1810, Jesse Lay, a lad of fourteen years of age, was brought to me by his mother, on account of a large excrescence which appeared to originate from the inferior maxillary bone on the left side. The history of the case as given to me was as follows: About two years before, a tumor of the size of a pea was discovered arising from the gums, and proceed-

ed, as the mother supposed, from a carious tooth. It gradually increased, and at this time had arrived to such a size, as almost entirely to enclose the left portion of the above-named bone. Internally, it occupied nearly the whole of the mouth, and for the last three weeks great difficulty was experienced in swallowing, and occasionally danger of suffocation during sleep. On the top of the excrescence, and along its whole length a shallow groove extended, in which could be discovered, undulations corresponding with the alveoli.

Neither the old woman, nor her child could give any account of the disappearance of the teeth. I presume the pressure of the tumor occasioned their absorption. The boy was of a sickly aspect, and though fourteen years of age, was not larger than boys usually are at eleven or twelve. It was evident, at first sight, that the patient could not exist very long, without a removal of the disease; and it was equally plain that nothing, excepting an incision of so much of the bone as was occupied by the tumor, could accomplish that object. The operation was accordingly proposed, and being agreed to, was done in the following manner:

An incision was commenced under the zygomatic process, and continued on the tumor, in the direction of the bone, to nearly an inch beyond the centre of the chin. A second incision was begun about midway, at right angles with the first, and extending a short distance down the neck. The integuments were now separated from their connection with the tumor, &c., and the bone was sawed off immediately at the angle and centre of the chin. I saw nothing of the submaxillary glands; they probably shared the fate of the teeth. The wound was united in the usual manner, and the boy had a speedy and happy recovery. The tumor was cartilaginous; and on being cut, exhibited a surface as white and smooth as polished ivory. The bone (the tumor having been separated by maceration) presented the appearance of a thin shell, wide in the middle, and tapering to a point near each end, where it was of the proper size and shape. Although thirteen years have elapsed since the operation (now 1823) no connecting medium has arisen between the ends of the divided

bone. The end, at the angle, appears to be covered by the usual integument, whilst the one next the chin remains naked and rough, though it has, notwithstanding, never exfoliated. The side of the face whence the bone was removed, is somewhat more flat, and the chin more peaked than natural. But the young man having successfully trained a pair of whiskers, the deformity is not very apparent, except on near inspection. Shortly after the operation, the patient recommenced growing, and is at this time an ordinary sized man.*

CASE 2.—*Congenital Cataract.* By Prof. J. P. EVANS, M.D., formerly of Tazewell, Tenn.—Patient, a female, aged twenty-three years. Only operated on one eye. This operation was only partially successful. A central portion proved to be solid; the remainder semi-fluid. Nine months afterwards the operation was repeated, and the central portion was partly broken up and partly depressed. Successful. (The inflammation which resulted from the first operation, is referred to in my report of western cases, in the *Southern Journal of the Medical and Physical Sciences*, June, 1856, vol. 4, no. 6, p. 349.)

CASE 3.—*Trephining for Amaurosis.* By J. P. EVANS, M.D., formerly of Tazewell, Tenn.—Trephining for amaurosis, resulting from physical injury of the brain. Temporary recovery. (Published in *The Charleston Medical Journal and Review*, July, 1849, vol. 4, no. 4, p. 415.)

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* NOTE.—The Committee would add that the account of this operation has been published in many medical Journals throughout our country and in Europe. In the recent work of Prof. P. F. Eve, the claim of priority to this operation, as had previously been maintained, is accredited to Dr. Deadrick. In a letter to Dr. B. W. Avent in 1853, Doctor D. states that with the exception of a trivial tumor from the face, this was his first operation on the living subject. Dr. Deadrick died at Athens on the 30th of October, 1857, having long since withdrawn from professional life.

This operation of Dr. Deadrick was performed in 1810. Dr. Carnochan of New York attempted in 1851 to award to *Dupuytren* of Paris the credit of priority in its performance, but the claim of our young East Tennessee surgeon has been established and sustained by such men as Mott, Gibson, Blackman, and South.

CASE 4.—*Fracture of Frontal bone.* By JOHN T. JONES, M.D., Harrison, Tenn.—John Roberts, Esq., of Roane county, Tenn., in the autumn of 1842, received a blow above the left eye, fracturing the frontal bone and forced in upon the brain a large portion of the frontal bone including the whole of the left superciliary arch. The patient remained in a state of stupor and insensibility until the fractured bone was entirely removed. Dr. Jordan, of Kingston, Tenn., and myself performed the operation. After dissecting up the *frontalis*, *superciliaris*, and a portion of the *orbicularis palpebrarum* muscles, the extent of the fracture was at once visible, the fractured bone was raised and removed entirely and a considerable amount of blood allowed to escape from the wound before dressing—immediately after the removal of the bone consciousness returned; for the first five or six days after the operation considerable febrile excitement prevailed, and at times slight delirium was present but readily yielded to a common antiphlogistic treatment.

The wound was dressed twice a day with Basilicon ointment on lint, after washing with castile soap. The wound healed slowly being much impeded by fungus excrescences which formed frequently and so large as to require the use of the bistoury for their removal.

Roberts was about sixty years of age, of intemperate habits—was drunk when the wound was inflicted, which was by a brick-bat, wrapped up in a pocket handkerchief and used like a sling-shot.

The piece of bone measured $2\frac{1}{2}$ inches in its longitudinal direction or between the nasal and temporal attachments and about $1\frac{1}{4}$ inches its shortest diameter. The bone I presume is yet in the possession of Dr. Jordan.

I have been informed that Roberts still occasionally has paroxysms of delirium, particularly after the slightest indulgence in alcoholic stimulants. After the wound healed, the deep depression above the eye and the flattened appearance of the left side of the forehead, remained as indelible evidences of a dangerous wound, and a narrow escape from death.

CASE 5.—*Concussion of Brain, with symptoms of Compression,*

relieved without trephining. By RICHARD O. CURREY, M.D., Knoxville, Tenn.—J. C., aged 38, in a drunken spree, was struck a severe blow with a billet of wood across the upper angle of the right parietal bone, causing insensibility for several hours. Called in on the seventh day, previous to which time he had had his head shaved, and was, by direction, applying cold water dressings. He had also taken a dose of calomel, which had been followed by epsom salts.

Found the wound on 7th day much swollen; united; heat of scalp great; severe pain in head; cannot bear least movement; eyes intolerant to light; pupils dilated. The pain in head very severe at the point opposite to that on which the wound has been received, where it was also very tender to pressure. Mind confused and wandering. He had just before my visit gotten up and gone out for the purpose of starting to California. Pulse small, 60, weak; surface of body and extremities cold; face flushed and hot; tongue protruded with difficulty—broad and flabby, white coat; bowels sluggish, and had vomited once.

On probing the wound, as well as could be done at this late date, found no fracture—the length of the scalp wound being two inches.

Clipping the hair from the entire head, directed a bag of pounded ice to be applied—and at the same time sinapisms to wrists and ankles. Ordered four anti-bilious pills, to be followed with epsom salts if there was not a free action in four hours; room to be kept cool and quiet.

The next day, 8th, of accident, found him more comfortable; no remembrance of visit yesterday; same treatment continued, with the addition of the neutral mixture as a refrigerant diaphoretic. Sunday intervening and much company calling, he was again made worse, the pain in the head becoming very intense, with a slight affection of left eye. It yielded however to brisk purgation, and the pounded ice bag, and on sixth day of treatment—the scalp having healed, and pains in head entirely subsided, he was discharged—enjoining rest, and avoidance of sunlight and exercise, with low diet.

CASE 6.—*Puerperal Parotitis, simulating Puerperal Tetanus.* By RICHARD O. CURREY, M.D., Knoxville, Tenn—Any affection arising as a result of the lying-in room arouses the fears and anxieties of friends, and increases the responsibility of the attending physician.

Mrs. B., aged twenty, in good health, the subject of this notice, was taken in labor with her first child on the 20th of May. The room in which she was confined being a newly built log house was still without a ceiling, and as there was no fire-place, and the night very chilly, both she and her attendants suffered very much from the cold. Labor began at 9 P.M., and steadily progressed till 1 A.M., when the head engaged in the inferior strait. Such little disposition did the extended organs manifest to relax, that from that time till 5½ A.M., the head was passing through the vulva alone, during the whole of which, while the head had escaped from the tuberosities of the ischium, the *distended* external organs formed a complete sac around the head. Gradually they relaxed, and a girl weighing 9½ pounds was born.

She rapidily recovered, and was discharged on the third day from attendance. On the fifth day was sent for, and found her with high febrile condition of the system; pain in abdomen, and in right side and a slight hacking cough. Put her at once under treatment for puerperal fever, and by the fifth day afterwards her condition had improved, all fever subsided, the pulse being reduced to 70, and the lochial discharge, which had been suspended, returned, and she was again discharged.

On the second day afterwards, again summoned to her bedside. Found her again in high fever; no lochia; and a highly inflamed swelling in the vicinity of right parotid gland. It involved the whole gland, and continued to increase in size till the right eye was closed, and the whole right side of the face was involved. Conscious that it could not be ptyalism, yet as far as was able, examined the internal condition of her mouth—no ulcers were manifest, neither was there any tenderness of gums, nor flow of saliva. This examination could however be performed with great difficulty, for from the first, such was the rigidity of the muscles of the jaw, that it was almost impossible to introduce even a

spoon-handle between the clenched teeth. Articulation was consequently difficult and deglutition painful. Such was the character of this new feature in my case that I particularly examined her with reference to tenderness of spine, and made diligent inquiries of the nurse as to the appearance of any spasmodic twitchings of any of the muscles—such only being needed to render this a veritable case of *puerperal tetanus.* The patient however frequently complained of chilly sensations, as of cold water running down the spine.

The swelling continued to increase during the next six days, notwithstanding local applications of volatile liniments, and soothing poultices, when it began to manifest a disposition to point near the masseter muscle, and pulse continued at 150 for four days notwithstanding the free use of opiates to calm the system and promote sleep. The lancet being plunged into the spot where it seemed softest, there followed a full stream of cream-like matter, a portion of which found its way through the parotid duct into the mouth. The gland was discharging for three days, giving out during the time at least an ounce of pus, some of which had the lobular or cellular appearance of the gland. She speedily recovered after this, and now presents a marked depression in that side of the face. If this was not a case of puerperal parotitis, arising from her puerperal condition, I know not by what name to call it.

CASE 7.—*A Locust Bean in the ear for nine years.* By RICHARD O. CURREY, M.D., Knoxville, Tenn.—Little things are sometimes productive of great results, and little facts in surgery as in everything else, go to make up the grand total of successful practice.

During my visit to the family of Mr. M., I noticed that his daughter of fourteen years was slightly inclined to be deaf, and on making inquiry as to the cause was informed that when she was five years old in one of her playful moods she placed a locust bean in her ear, and that although repeated attempts had been made to extract it, yet all had failed. Introducing a probe, I could distinctly feel the hard bean, and promised to remove it at

my next visit. Accordingly providing myself with an ear syringe, I called for some warm water and castile soap. With this the head being inclined with the affected ear *downwards*, but two injections were made into the ear, when to the joy of all it was washed out, as sound as it was the day in which it was first inserted.

Among the attempts to remove it, were the forceps—a spoon probe, and one physician proposed a fine drill so as to bore the bean and remove it. One thought had never been given to the good that might result from the simple syringe and warm water.

Case 8.—*Sloughing of jaw and face from Ptyalism*—(Operation.) By B. FRAZIER, M.D., Pikeville, Tenn.—Mrs. T.——, aged about twenty-five years, was, when about twelve years old, afflicted with a severe attack of fever; during the progress of the disease, the physician who attended her salivated her severely—so much so that both cheeks sloughed, and the right one extensively. The soft parts had all sloughed off, leaving the upper and lower maxilla bare, for almost their entire length, and communicating with the mouth, so that the fissure extended from the mouth to within half an inch of the ear. Granulations had reduced this opening somewhat, and the skin on the jaw had adhered firmly to the bone, which was covered with thin skin down to the gums. The molar teeth being left without support, had inclined outward, and projected considerably in that direction. The jaw was nearly anchylosed. The patient had to live entirely upon fluids, which she sucked through the front teeth. The saliva and fluids of the mouth were constantly oozing from the opening, rendering her condition exceedingly uncomfortable to herself, and loathsome to her friends.

In this condition she had lived for some twelve years; her general health had been good, and having in expectancy some property, had married and was the mother of two children.

She had consulted several physicians, and they had all told her nothing could be done for her case. I had seen her several times during the last year or two, and she seemed very desirous that something should be done, and anxious to submit to any trial that might be made upon her. At length I concluded to

make an effort to close the opening, believing that I would at least make it no worse, if I made it no better. Accordingly I undertook the operation. I placed the patient under chloroform; seated by a table, with her head resting upon it, supported by pillows, I first drew out all the teeth, both above and below, that projected out of line; then separated the skin on the upper jaw from its adhesion, as far up as to get to the original sound skin; then with scissors trimmed it off so as to make a straight, even edge, which extended from the ala of the nose, in the direction of the ear, and within three-fourths of an inch of that organ. This being done, I next commenced an incision at what should have been the corner of the mouth, just where the lip ended, and carried it downward over the chin to the neck; I then separated this angle of skin and muscle from the under jaw, following the adhesions of the skin where it had adhered to the bone as far up as the sloughing had gone, which brought me to the edge or bone rising from the nose above. After separating the parts freely, and ascertaining certainly that I would have plenty of loose skin and muscle drawn from the neck, I next pared the edge of the flap which was to unite with the edge above, drew it up and carefully tied it to see if it would fit; I then commenced uniting it by bringing the corner of the flap up to the angle at the side of the nose, and retaining it there by twisted or hare-lip suture; the balance of the flap was then drawn up to the edge above, and confined by pins as the first. The incision over the chin and down the neck was slightly stitched by the interrupted suture. The lips were then adjusted and fastened at the corner of the mouth, making all to fit in without any superfluity. Over all was drawn adhesive strips, several of which extended up on the forehead, to prevent too much drawing down of the under eye-lid. She bore the operation well—which lasted near half an hour; suffered but little pain, though not entirely insensible. The anæsthesia was only partial, most of the time. The parts all united by adhesion, except a small point about the middle of the opening; one of the pins at this point gave way, and adhesion did not take place—though it soon filled up by granulations.

I had expected to meet with more difficulty than I did. I thought it likely I should have to tie the facial artery, as I would encounter it at some point; but it had evidently been obliterated. The hemorrhage was very slight and unimportant. I was also apprehensive that the parotid duct might be in the way, but this too had disappeared.

My intention, at the time I commenced the operation, was to first close up the opening, and let it get entirely well, and then attempt to unloose the jaws, by separating the adhesions inside the mouth; but in this I was disappointed; the parts healed kindly, and smoothly. The deformity and ghastly appearance had entirely been overcome; the face was not absolutely handsome, but passable; and with this she was satisfied, and refused to submit to any further operation,—and shortly after, with her family, moved to THE WEST.

DISEASES AFFECTING THE CHEST.

CASE 9.—*Paracentesis Thorasis.* By B. F. BELL, M.D., Cedar Creek, Tenn.—William Smart, Madison county, N.C., aged about forty-five, of intemperate habits; general health bad; disease, hydro-thorax: no chloroform used. The operation was performed between the sixth and seventh ribs of the left side. A valvular incision was made, a little posterior to the great curvature of the rib. After the incision on the dorsum of the seventh rib, the trocar was introduced without pain, and ten ounces of a yellowish-white fluid were drawn off. The incision was closed with adhesive strips, and the whole chest tightly bandaged. The patient was left, the same day, easy and cheerful. After this I never saw Mr. Smart, but understood that a re-accumulation of fluid occurred, some length of time after the operation, and having no opportunity to try another operation, he died of the disease.

Operated 25th day of February, 1852.

ABDOMEN AND GENITO-URINARY ORGANS.

CASE 10.—*Uterine Polypus.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—July 10, 1852.—Was called in haste

to Mrs. M. M——, aged thirty-eight years, married, and was the mother of only one child, which she gave birth to some twelve months previous, and when she was yet single. In consequence of her "*mishap*," her accouchment was attempted secretly by her mother and other inexperienced attendants, and she came near losing her life—from which time she states that she has never seen a well day; laboring under menstrual irregularities, prolapsus uteri, and other sexual disorders; but not until about seven years after the birth of her son, did she experience any symptoms of her *polypi*—and about five years previous to my first visit. She had been attended by an old steam-doctor for several years, who never discovered her polypus—or if he did, took it to be a *prolapsed uterus.*

Symptoms.—The most prominent symptom was a daily uterine discharge. This constant drain was kept up until she was completely exsanguis, with all its attendant distressing nervous train. After getting all the information from the history and symptoms of her case that I could from questions, I requested an examination per vaginam, which was readily acceded to—which lead to the discovery of a large *polypus tumor*, attached just within the *os uteri*, and hanging down almost externally. The tumor was about the size of a goose's egg.

Treatment.—On the following day, assisted by my friend, Dr. Cook, of Monroe county, we applied a ligature as near the os as possible, so as not to include any portion of that organ. The ligature was tightened every day for five days, when the tumor separated and came away. The instrument used in the operation was the *double canula.* The tumor was a firm and fibrous one, and has not been reproduced. The patient steadily improved, until she regained moderate health.

CASE 11.—*Wound penetrating the Cavity of Abdomen.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—July 30, 1857.—I was called in haste to C. S. L——, son of the Rev. W. L——, aged about eight years, who had fallen upon the open blade of a large pocket-knife, which entered the abdomen about one and a-half inches to the right of the umbilicus, and making

the incision transversely above, and encircling the umbilicus, about two inches in length. On my arrival, some half-hour after the accident, I found a portion of *omentum* protruding about two inches, which was cleansed with a bit of soft sponge and warm water, and returned; three stitches and adhesive straps, with a bandage over the whole, completed the dressings. This patient soon recovered under a moderately antiphlogistic treatment, regimen, &c.

CASE 12.—*Abscess of Kidney.* By J. P. EVANS, M.D., formerly of Tazewell, Tenn.—Patient was not visited until after suppuration had taken place.

Operation.—Introduced a thumb lancet about one inch in depth, and enlarged the incision with a scalpel. One pint of thick pus was immediately discharged. For more than a week pus was evacuated in gradually diminished quantities. Recovery.

CASE 13.—*Retention of Urine.*—By J. G. BROWN, M.D., Cleveland, Tennessee.—Summoned at night to visit H. Parker, living twelve miles distant, near the Georgia line to assist Dr. Ford of our town in introducing the catheter. The patient was suffering severe pain in the region of the bladder from retention of urine. Dr. Ford had seen him three or four days before, when he was suffering from a difficulty of urinating and introduced the catheter and drew off the urine. The Doctor had now made several efforts to introduce the catheter before my arrival but failed. I was requested upon my arrival to try my skill, and upon introducing my finger into the rectum to assist in passing the catheter, I detected a large tumor about the size of a goose egg occupying the region of the prostate gland. It was as hard almost as a stone and pressed so upon the neck of the bladder and pushed the urethra so much out of its natural direction as to render it impossible to introduce the catheter.

We did not know whether the tumor was a diseased prostate gland or an abscess in the recto-vesical septum. He was then two days without passing water, directed cream tartar and jalap to act freely upon the bowels; warm bath to relax system and

produce sweating, continued this up to seventeenth without any relief, urine all the while accumulating. His abdomen now resembled that of a woman in the fifth or six month of pregnancy. The bladder was so distended with urine as to reach near the umbilicus. All our efforts therefore had availed nothing.

I proposed to the Doctor that we tap the bladder above the pubis, and keep the urine drawn off in this way, as long as we could, or until time would bring about some favorable change in the case, hoping some change would take place in the tumor in a few days by which the obstruction would be removed. The Doctor readily consented to the proposition as being the only course to pursue. After stating our views to the patient and his friends, and obtaining their consent to operate, with the assistance of the Doctor I performed the operation by making an incision partly through the integuments about three inches above the pubis, with a scalpel and completing the operation with an ordinary sized trocar and canula. Something over a gallon of stinking urine was immediately discharged, which gave the patient immediate relief from the intense pain he was suffering, which caused him to cry out in great agony every five minutes, and say he would soon die if we did not relieve him quick.

We left the canula in the bladder making it fast to the surface of the abdomen with sticking plaster, put a cork in the mouth of the canula, with orders for him to withdraw it every three hours and empty the bladder, advised to remain as quiet as possible, to take salts and keep the bowels open.

On the twenty-third, six days after the operation, began to discharge matter from the rectum. Passsed my finger up and found the tumor soft and discharging pus.

Twenty-eighth, been discharging pus since the twenty-third of a healthy character. Examined and found the tumor had nearly disappeared. To-day in the effort to urinate through the canula a few drops fell from the end of the penis, advised him to make efforts several times a day to pass his urine in the natural way.

July thirtieth, withdrew the canula to-day (as he passed his urine yesterday through the urethra) after remaining in the bladder thirteen days.

Advised him to pass the urine frequently for a few days. Recovered in a short time and went to work, his business being that of a farmer and day laborer. He is now in good health and has been for several years a constant hand on the repairs of the East Tennessee and Georgia Railroad.

CASE 14.—*Abdominal Abscess.* By JAMES RODGERS, M.D., Knoxville, Tenn.—(This case was reported in the July number of this Journal.)

CASES 15 and 16.—*Two cases of Psoas Abscess.* By BENJ. FRANKLIN, M.D., Philadelphia, Tenn.—It should never be a task, but a pleasure to the physician at any time to promote the welfare of his profession, by giving the results of his practice, to assist in filling the pages of any well-conducted journal, or society that has for its aim the promotion and welfare of our profession.

The first case I propose to offer is one of not very common occurrence in our common country practice. I have never seen but three cases of the kind since I began the practice. One of these was caused from a fall, in the person of a young man aged about twenty-five years, of strumous diathesis, and receiving the force of the fall upon the lumbar region, causing considerable contusion, degenerating into a low scrofulous inflammation, and finally terminating in a deep seated lumbar or Psoas Abscess, which upon being lanced beneath Poupart's Ligament, at the usual place, discharged a large quantity of thin scrofulous matter, terminating in hectic irritation and fever, and which resulted in the death of the patient in about four months.

Believing the pathology of Psoas Abscess to be a scrofulous inflammation of either the Psoas Fascia, or soft Psoas muscles, and that in this case the peculiar diathesis of the patient to be only developed and located by the contusion incident to the fall, I placed the patient on an alterative tonic course of treatment, consisting of syrup ferri, iodide, thirty drops, administered in three ounces of tinct. of sarsaparilla, to be given three times per day. Also to use the warm salt-water bath three times per week,

with setons, issues, &c., locally applied, all of which treatment proving abortive, the patient, as above stated, lingered a few months and died.

The second case occurred in the person of a stout and athletic man, aged thirty-five years, which seemed to be entirely idiopathic, there not being any known exciting cause or hereditary predisposition to such affections. A man of previously good health, and by trade a brick mason. When application was made by him to me for medical advice, he seemed from all the physical signs connected with his case to be laboring under an attack of chronic nephritis, evinced by decided pain on pressure over right kidney, with frequent desire to void his urine, which, when passed, was small in quantity, of a strong ammoniacal odor, bearing the color in every respect, of sweet oil. Upon applying the highly recommended test of Prof. J. K. Mitchell, of the Jefferson College, Philadelphia, that of collecting a small quantity of urine in a small glass-tube, with a narrow neck, and then turning the contents out hastily, I found the bulb filled full of very large bubbles of air, evincing clearly the presence of a superabundance of albumen in the urine, showing thereby strong evidence of a scrofulous degeneration of the malpighian glands of the kidneys, known as Bright's disease of the kidney.

This patient had in every respect all the symptoms of this most formidable disease, which continued for nearly twelve months at about which time the symptoms of this disease seemed to entirely subside, leaving the patient free from any evidence of albuminaria, and in fact all other constitutional disturbance—so much so that he resumed his occupation, and followed it without the least inconvenience for nearly twelve months, when he began to feel unpleasant sensations in his back, similar to that of lumbago. I advised him at once to suspend his occupation, supposing that the stooping incident to his trade would be of decided disadvantage to him, which he accordingly did. His condition seemed to grow worse. He applied to me for advice, and upon a careful examination, I found no disease remaining in his urine, neither in quantity nor quality, his urinary organs seeming to be in a perfectly normal condition. Suspecting then that some

metastatic scrofulous inflammation might be locating in the lumbar region, arising probably from the previous disease in his kidneys, I examined carefully, and found that matter had not only formed, but was absolutely pointing below Poupart's Ligament, forming a tumor as large as a small egg. Believing then the case to be one clearly of Psoas Abscess, caused by the development of the still latent scrofulous matter remaining in his system since his previous attack of Bright's disease of the kidney, excited probably by his occupation, I addressed my remedies accordingly, which consisted in an alterative tonic course, similar in every respect to the one first instituted in his case. There is one peculiarity here connected with this that I never saw before, either in practice or medical writing, which is the evident connection between the first attack or that of Bright's disease, and this lumbar or Psoas Abscess. It was at first clearly a case of Bright's disease, which seemed to entirely subside for nearly twelve months, not leaving even a vestige of this disease that could be detected, either by the chemical tests of heat, and nitric acid, or that of Dr. Mitchell. Now could this be a case of metastasis of chronic inflammation of the kidneys? or was it his occupation, developing this accidental scrofulous diathesis, yet remaining in his system after his recovery from his first attack?

On the 25th of July, the thermometer standing at 105 degrees, I made a valvular opening into the seemingly small collection of matter, which had pointed beneath Poupart's Ligament, and drew off half a pint of scrofulous matter, bearing in every respect a strong resemblance to buttermilk, with a considerable quantity of sanies or ichorous matter floating through it. Finding the discharge beginning to prostrate my patient, I accordingly introduced a small tent, and stopped the discharge, and left the patient with directions to keep the limb wrapped or covered in a large warm poultice, which should be removed as necessity required, and also the limb to be relieved of the matter as his strength would bear.

Upon my next visit I found him with a rapid and irritable pulse; also a very offensive and ichorous discharge, going on from the part, and evidence of a mortifying condition in the limb be-

low the place where it was opened, extending down to within an inch or two of the knee-joint. Supposing that there might be pouches of matter found and burrowing through the muscles and cellular tissue of the thigh below the point of opening, I accordingly made a bold incision extending to the bottom of the abscess, extending from the point of opening to within an inch of the knee-joint, and found the whole thigh beneath the strong Fascialata to be in a perfect state of ulceration, and covered with a thick layer of scrofulous and sanious matter. Upon finding the limb in this condition, and in point of temperature preternaturally cold, I directed the whole limb to be covered with a large warm poultice, and the cavity or seat of abscess to be washed or syringed with a strong solution of nitrate of silver, once every day. Under this treatment, accompanied by stimulants and tonics, in a few days, the limb threw off a large slough, consisting of the whole cellular tissue of the thigh, extending down the whole length, or the entire side, under which was seen a fine crop of healthy granulations sprouting, which continued to grow until the whole destroyed portion of the limb was reproduced as high up as to where the first opening was made in the thigh above. There is one practical point here fully shown in this case, which all physicians should carefully notice in the treatment of this formidable and vital deceiving disease. I say deceiving, for I know of no word by which to better express my idea, and that is the possibility of matter burrowing and making frightful inroads upon the thigh before it shows much evidence of its great collection at the place pointing beneath Poupart's Ligament. To avoid this danger, would it not be better in every case to lay open the tumor immediately after discovering it, than run the risk of this frightful burrowing! In this case it seems that the place of pointing was through the opening in the Fascialata, through which the external saphenous vein dips to enter the large vessel beneath, aud that the great accumulation of matter was caused by the resistance offered to it by the strong Fascialata, which is thicker and stronger over this region of the thigh than elsewhere. So dense was the Fascialata, and so strong and powerful the resistance offered by it, to the spreading of the matter, that it seemed to direct its way down the thigh

without causing any perceptible enlargement of the thigh except in the immediate vicinity of the tumor under Poupart's Ligament, well calculated in its nature to deceive the most careful medical observer.

A second accumulation took place, which I opened in the right lumbar region, which discharged freely, and in a great degree checking the discharge from the first opening, showing a perfect connection between the two openings. In two or three months a third pointed near the tuberosity of the ischium, which had the effect of checking the discharge from the two previous openings, showing that they were only pouches formed by the same great fountain or source of disease located upon the Psoas muscles of the back. Shortly after this third abscess was opened, he was troubled greatly with spasmodic action of the large muscles of the thigh and hip, so much so that it required a large quantity of opiates to check it sufficiently to obtain sleep at night. This muscular contraction growing very severe, I was sent for, and found that a perfect dislocation of the thigh had taken place upwards and backwards, which I did not attempt to reduce, believing that it was no doubt caused by the spasmodic action of the glutei muscles, there being a weakened condition of the capsular ligament of the hip-joint, with the great accumulation of pus surrounding it, and consequent diminution of muscular pressure, which should spend its influence directly upon the bone while in this state of spasmodic action.

The treatment in this case has been one continued course of alteratives and tonics, consisting of the saccharine solution of iodide of iron, combined with tinct. of sarsaparilla, proper nourishing diet, &c., the sol. of iodide of iron, given in dose of 30 drops, three times per day, administered in ʒiij of tinc. of sarsaparilla. Warm salt-water bath given three times per week, with friction to the skin, setons and issues locally applied. After opening the abscess the last time, I introduced an additional course of treatment, which was the introduction of a long gum elastic catheter through the opening high up, upon the seat of disease, and directed a strong solution of nitrate of silver to be thrown up once per day. It has now been over two years since

I began the use of the nitrate of silver, which was continued for about six months regularly, until the discharge began to fail, and I have had the great pleasure of seeing my patient after such long and severe suffering, gradually, but I think surely, recovering under its effects. There has never been any disposition in the abscess to accumulate since the introduction of nitrate of silver in the treatment of his case. He has used this injection twice per week up to the present time. The discharge has diminished from near a half pint and over in the twenty-four hours, to not more than a tea-spoonful, and frequently none whatever, and what there is discharged being of the character of healthy pus.

I would recommend a trial of this remedy to the profession, as both safe and efficient, in the treatment of this very distressing disease. For certain I am that this remedy by its antiphlogistic alterative and stimulant effect upon the part to which it was applied, caused the slough to be thrown off, and granulation to sprout and reproduce the parts destroyed in the thigh previously spoken of, and I am constrained to believe it has had the same effect applied to the seat of the disease high up among the Psoas muscles, and although he will be left in a deformed condition from the dislocation of his hip, he will be entirely relieved of the disease in the course of a very short time.

CASE 18.—*Retention of urine caused by a collection of clotted blood in the bladder.* By GEO. C. WHEELER, M.D., late of Bledsoe county, Tenn.—Having noticed a call for singular and anomalous cases, in the 5th no. vol. 5th, of the *Southern Jonrnal of Medical and Physical Sciences* I transmit the within copy from my note-book, of the case of Mr. Anderson, of Bledsoe county, aged seventy-four years.

September, 12, 1849, called to visit Mr. A. Found his bladder immensely distended, it having been three days and no urine voided.

I attempted to introduce the catheter as he lay, but as I failed I had him held upright and made another attempt, in which I found an elastic mass obstructing the end of the catheter; by manipulation the catheter was at length passed between the mass

and walls of the bladder up to the fundus, but no urine flowed, withdrew it and found the opening choked with filiments of fibrine, renewed the trial and succeeded in abstracting about five pints of urine colored highly with blood, some fibrine and a little flocula of pus. Being at some loss, and the bladder still much distended, patient old and very weak, I returned home for a little reflection, knowing there was room in the organ for all the urine that could accumulate in eight hours.

On mature reflection I came to the conclusion that the mass in the bladder whipped the blood into fibrine and that portion of it in contact with the walls of the bladder was rendered fibrine and elastic, while the internal portions were ramnifying out through the urine and fluid, being of a formation analogous to the placenta.

With these conclusions I came to the determination to proceed as follows:

I introduced a nearly straight beaked catheter until in contact with the mass, I forcibly passed it through its walls and gave it several sweeps around to break up the mass; withdrew it and found it clogged with fibrine. I returned the catheter and withdrew about half the amount of fluid in the bladder and then gave it a few more turns to break up the mass.

This process I continued daily twice a day and at each time took about half the fluid, concluding the fluid in the bladder with its carbon would act upon the mass and take it into solution so as it would finally pass, and had my conclusions verified as at each catheterism the quota of fibrine was increased, the fluid began to become much darker and the heat much increased; the smell became so offensive at last, that one of the stoutest young men in the vicinity fainted while holding up the patient when under catherism, indeed I became considerably alarmed for fear of general mortification, sloughing, &., but eventually the urine began to lighten in color and lessen in fibrine, until it became clear. Yet no urine would pass without the use of the catheter, I concluded this to be idiosyncratic, and by letting it accumulate largely, which had the happy effect of stimulating the sphincter into action and the use of the catheter was no longer necessary.

Several weeks elapsed before the debility consequent on so protracted a case was overcome, but at the end of thirty days from my first call he was walking about, ultimately as well as ever and worked as usual, &c. I used the catheter over eighty times.

I hear Mr. Anderson had an attack of the same last year and died, aged eighty-one years.

CASE 19.—*Case of Sarcocele—Fatal.* By JOHN T. JONES, M.D., Harrison, Tenn.—Joseph Romines, aged about thirty-five years, a citizen of Hamilton county, Tenn., presented himself at my office for advice and treatment. He was attacked with sarcocele of the right testicle in the summer of 1854 about twelve months before I saw him, and had been under medical treatment during most of the time. The treatment had consisted in the application of various kinds of liniments to the affected testicle, with the administration of iodine and mercurials internally. The testicle had continued to enlarge, gradually involving the cord as far as it could be felt, which was much swollen and quite painful, from the traction on it caused by the heavy and enlarged testicle which was at the time I first saw him about the size of a goose egg, occupying and distending the scrotum, having forced the healthy testicle up to the abdomin ring of the side to which it belonged. The lymphatic glands of the abdomen had become so much involved that a tumor of considerable size could be distinctly felt through the integuments. I advised, as the only hope, the immediate extripation of the diseased testicle, at the same time I must acknowledge that I felt doubtful as to the result.

The enlarged cord, the lymphatic tumor, or tumors in the abdomen, the many evidences of the cancerous diathesis in the appearance of the patient, rendered the idea of success in his case doubtful. The patient however refused to submit to an operation and went away. In three or four weeks he returned, and anxiously solicited an operation. The sarcocele had enlarged very much and the skin surrounding it had assumed a livid hue, the cord was also much enlarged and the patient suffered excruciating pains throughout the whole extent of the cord so much so that he had not been able to sleep for several nights to-

gether. I must not forget to remark that the patient during the time since I first saw him had been under the care of a so called Indian Doctor of the neighborhood, how he was treated I can not pretend to say.

At the solicitations of the patient and the suggestions of other medical men who were called in consultation, I proceeded to extirpate the affected testicle.

It was removed, the cord secured and the necessary dressings applied without having recourse to any anæsthesia agent whatever.

The patient complained but little during the operation which required about ten minutes.

The sarcocele weighed two pounds, eleven ounces *avoirdupois*. The dressings were attended to once a day until the healing process was complete and a cicatrix formed the whole extent of the incision made in the scrotum, which required about two weeks time.

There seemed to be general improvement in the health of the patient for more than a month, in every respect aside from the tumor in the abdomen which continued to enlarge, though but little pain was caused by it until about two weeks before death, which took place about one and a-half months after the operation. About a week before death the tumor could be felt extending from the right to the left hypogastric regions and prominently protruding at the umbilicus, firm, hard and unyielding. Great gastric derangement and pain was experienced by the patient.

The stomach became irritable, the patient failed, or rather the stomach refused to retain sufficient nourishment to sustain the system. Anasarca and in fact a general dropsical effusion supervened and death resulted more from an adynamic condition induced by deranged nutritive functions than the influences or lesions incident to active inflammation.

At no time from the time of the operation till death could I detect the least febrile excitement. About three days before death the abdomen became morbidly cold and rigid, the other parts of the body maintained very nearly the natural temperature till the hour of dissolution.

A post mortem examination was requested but refused by the relations of the patient.

The patient suggested that the disease was caused by a stroke from a piece of scantling which he was attempting to remove while engaged in attending a saw mill, the scantling in falling struck him on the privates causing considerable pain and nausea at the time and considerable soreness for a few days. The accident however occurred some two and a-half years before the patient discovered any symptoms of disease or any enlargement of the testicle. I give it as my opinion that if the operation had been performed early in the disease that the patient would have recovered completely. Extirpation I believe is the only successful treatment in sarcocele, but it should certainly be attended to before the cord and the lymphatic glands became involved to much extent.

CASE 20.—*Removal of Uterus and appendages for schirrous disease.* By WILLIAM J. BAKER, M. D., Knoxvillle Tenn.—(This case was published in the January No. of this Journal.)

CASE 21.—*Imperforate Hymen.* By JOHN T. JONES, M.D., Harrison, Tenn.—A Miss Smith, aged about fifteen years had suffered for more than twelve months from symptoms of suppressed menstrua. The abdomen was enlarged and tumid; the skin sallow, harsh and dry; the feet and legs œdomatous.

Pulse small, frequent and feeble; tongue flacid, clean and pale; general languor and indisposition; her mother informed me that she suffered very severe pain from uterine contractions at her monthly periods, but that she had not been able to detect any thing having the appearance of *catamenia.* She only judged of the regular periods by the pain and irritability in the region of the uterus, the tumefaction and hardness of the breasts and the many symptoms that usher in the menstrual discharge. After an examination of the prominent symptoms of the case I was induced to conclude that it was a well defined case of "hymenica amenorrhœa." I informed the mother of my opinion and the girl at the solicitations of her parents submitted to a more scru-

tinizing examination of the case, which resulted in the discovery of the real condition of the organs and a confirmation of my first suggestions in relation to the cause of the *suppressio mensium.*

A firm and dense membrane completely closed up the orifice of the vagina so that the menstrual flux and the vaginal secretions were retained until taken up by absorption and thrown off through other channels.

The operation of the hymen was performed by cutting through the membrane with a scalpel after which the fore finger of the right hand was introduced through the incision and a probe pointed bistoury guided by the finger introduced and cuts made in different directions; some blood was discharged and a considerable amount of a dark colored offensive fluid escaped.

Injections of diluted port wine were advised for a few days, and the administration of carb. iron and Peruvian bark, daily administered, cream tartar sufficient to excite the kidneys and operate mildly on the bowels was prescribed and three or four days before the anticipated menstrual period the administration of calomel and aloes, in doses of 2 grs. calomel 3 grs. aloes, twice a-day with an occasional opiate, when much pain was present; by the time the third menstrual period, after the operation, arrived the general health of the patient was much improved and the menstrual fluid presented a healthy appearance and was freely discharged and but little pain experienced during the flow of the catamenia. She continued to improve and in a few months recovered excellent health.

Operation, Sept. 10th, 1851.

CASES 22 and 23.—1. *Spinal Section.* By J. P. EVANS, M.D., late of Tazewell, Tenn.—Shoulder presentation. Labor had commenced actively more than twenty-four hours previous to visit. The arm had been amputated two or three inches below the shoulder, several hours before the case was seen. The woman was large and athletic; the pains vigorous, and recurred rapidly. The shoulder was pressed to the very verge of the valvula. The whole hand could not be introduced; consequently *turning* was impracticable.

Operation.—The blade of a straight bistoury was carefully wrapped with a strip of cotton cloth, to within three-fourths or half an inch of the point; it was then laid flat on the palmer surface of the index finger of the left hand, and thus introduced. The two first fingers of the left hand were carried in advance, as a guide and protection to the soft parts of the mother, and to aid in depressing the point of the bistoury, when necessary. 1st. The stump of arm was amputated at the shoulder joint. 2nd. The scapula and clavicle were removed. 3rd. The thorax was opened, and an attempt made to remove its viscera; but the powerful uterine contractions, and impacted condition of the fœtus, rendered the measure very difficult. The idea now occurred, that by dividing the spinal column, a favorable change of position might be speedily effected. An intercostal space guided to the vertebral column, and also to an intervertebral cartilage, which was easily penetrated by the knife. A change of position instantaneously followed this proceedure; the shoulder glided upward, and the lower extremities approached the outlet, and in half a minute the labor was completed, as a footling case. The mother soon recovered.

2. *Spinal Section.*—Shoulder presentation. Turning was found to be impracticable. The uterine contractions were continuous and powerful, so that the hand could not be introduced without serious risk. Fœtus gave no sign of life. A procedure was instituted similar to that detailed in case one, which was followed by a like result.

I do not remember having read or heard of spinal section being practised in such cases. I am inclined to believe that it would never fail to lead to *spontaneous evolution*, where the uterine contractions were vigorous.

CASES 24 and 25.—1. *Craniotomy.* By J. P. EVANS, M.D., late of Tazewell, Tenn. 2. *Cephalotamy.* By the same.—1. *Craniotomy*, in consequence of hydrocephalus.—The lady had been in labor, with her first child, for more than forty-eight hours previous to visit. No sign of life in the fœtus could be detected, and had not for twelve hours. In consequence, (it was supposed)

of the rough manipulations of an ignorant and bold midwife, the parietes of the vagina had become so much swollen, dry and rigid, that it was with difficulty a single finger could be introduced. The head was found to be high up in the superior straight.

General condition.—Pulse full and bounding; skin hot and dry. ℞. Blood-letting, from a large orifice, until a tendency to syncope was induced. (Profuse perspiration followed.) Hot fomentations to the vulva and hypogastric region assiduously applied, and an abundance of hog's lard introduced into the vagina; also warm water enemata were employed. In two hours, or less, the parts had relaxed almost to their normal condition, and the head rapidly advanced to the inferior straight. It then became impacted, and was ascertained to be preternaturally large. On being pierced with a bistoury, through the posterior fontanelle, a large quantity of water was evacuated. The bones were attenuated under the pressure of uterine contractions; the cranium soon collapsed, and by the aid of gentle traction with the finger, the labor was soon completed. The patient soon recovered.

2. *Cephalotomia.*—A lady of small stature, in labor with her first child. Impaction, after parturient efforts had continued for twenty-four hours, was so incomplete that the forceps could no longer afford assistance. The fœtus had, during several hours, failed to give any sign of life, and symptoms of exhaustion were observed in the mother. The cranium was pierced and the encephalon removed. Slight collapse followed; but firm traction was necessary for the completion of labor. The child (a male) weighed fifteen pounds. On the fourth day after delivery, slight rigors and febrile reaction set up, accompanied by pain throughout the abdomen, with great tenderness on pressure. These symptoms soon subsided under the use of opium in decided doses, with which was combined the subchloride of mercury. The daily use of the catheter required for a month. She has since borne living children.

UPPER EXTREMITIES.

CASES 26 and 27.—*Two cases of Fracture of Distal Extrem-*

ity of Radius, treated with Bond's Splint. By R. O. CURREY, M.D., Knoxville, Tenn.—1. W. R., in taking down an old house, threw up his hand to catch a beam which was falling from the roof, some six feet above his head. The force of the fall caused a fracture of the radius with dislocation of wrist. When first seen, three hours afterwards, the wrist was very much swollen and very painful; no motion of wrist—which was twisted with the palmar aspect outward. Any attempt at reduction causing intense pain, and unable to ascertain satisfactorily the nature and extent of the injury, on account of its swollen condition, directed cold applications to be made of spirits and water, till swelling reduced; at the same time take an active dose of salts; this was effected in twelve hours. An examination of the arm revealed the nature of the accident. Distinct crepitation was heard on rotating. The finger being placed on the head of the radius, and with the other hand catching a firm hold on the *styloid process* a rotatory motion was given to it, when the head of the bone remained stationary. This was a painful manipulation, yet it revealed the true character of the accident. There was no motion in the wrist, nor supination nor pronation of the hand.

Making extension and counter-extension, and moulding the parts together, the small bone of the wrist slipped into its place. Preparing a splint according to Hays's modification of Bond's splint, it was provided with its roller and wadding, raised along the middle portion, and having laid the forearm upon it, with the palm of the hand resting over the soft roller or cushion, which had the effect to elevate the hand at an angle with the arm; a compress of folded cloth was laid upon the back of the wrist, and a roller was applied, beginning at the wrist, and carrying it around the hand so as to leave the thumb free. I carried it to the upper part of the forearm and there secured it. Then I brought the arm with the palm towards the body, thumb erect, and supported in an easy sling. Cold applications were continued to bandages, and after two removals of the bandagings, he was discharged on the 20th day after the accident. His wrist continued weak for sometime, but he has entirely recovered without any deformity. The entire treatment was effected with only one

splint—that of Bond as modified by Hays—and which may be found figured in works on surgery. So well pleased was I with the action of this splint, that though advised by a medical friend who called to see the case, to use a second splint, *just for the looks of the thing*, and to prevent any imputation, in case the wrist should not recover without deformity, that I was disposed to take the responsibility and continue the single splint. The result shows the utility of it.

The case happening just after the decision which was rendered in our Courts of Justice against Dr. Wood for malpractice, and being in every respect a similar case, I must confess that it was with some trepidation that it was taken in charge. Once convinced of the nature of the accident, and which could not be ascertained until *twelve hours* after it had occurred, the splint was adjusted and continued, with only two renewals, for the entire time it was under treatment.

2. Miss E. L., aged sixteen, in her playfulness was swinging upon a grape vine, from which she fell, and lighting upon the hand, a fracture of the distal extremity of the radius was produced.

Of these fractures, the authors mention two varieties—known by the names of the surgeons who discovered them. Thus we have Colles' fracture and Barton's fracture. In Colles' there is a greater fullness on the back of the hand; while in Barton's the swelling is on the palmar aspect of the wrist.

In this case there was the lateral displacement usual in such accidents, with an inability to rotate the hand; attended with rapid swelling and intense pain. Fortunately the wrist was not swollen very much, so that I was able at once to detect the nature of the accident. The wrist was adjusted, and Hays's Bond's splints, with its necessary compresses and bandages, applied—and the arm placed in a sling.

Forty days have elapsed since the occurrence, and there is a perfect adaptation of the parts together—and a prospect of a perfect cure, with a straight arm.

It may be remarked that the philosophy of this splint consists in adapting the compresses on the front and back of the wrist,

so as to make the requisite pressure, as well as retain the arm in a natural position—producing a state of rest in the bones of the wrist, as well as separating the radius and ulna. These compresses are in fact the splints themselves; and the success of the treatment consists in their well adaptation. The thickness of the compress on the palmar aspect may be determined by applying the splint to the sound arm, and making a compress of that thickness to fill up the space between the wrist and splint. This splint is found figured in all works on surgery.

CASE 28.—*Fracture of the Os Humeri and Ulna, and bending of Radius.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—July 25th, 1848.—I was requested to see Howard, a black boy belonging to the estate of Robert Stephenson, deceased, aged about eleven years—who had, a short time before my arrival, been caught by the pulley of a thresher—while the cylder was yet under full motion, in the act of throwing the band—and his arm taken around the pulley, fracturing the *os humeri* about its middle, transversely; also the *ulna* near its center, and bending the *radius* considerably, and otherwise slightly bruising the arm; at the same time receiving some injury on the side of the head.

Treatment.—The fractured bones were reduced by extension and counter-extension, and splints applied anteriorly and posteriorly, both to the arm and forearm; having the anterior splint of the *forearm* of unusual thickness, so as to assist in drawing the bend out of the *radius*—and the arm bandaged from the hand to the shoulder. The radius was only drawn straight after repeated and persevering bandaging. This boy rapidly recovered the use and natural appearance of the whole arm.

CASE 29.—*Dislocation of Clavicle at its Scapular extremity, with Fracture of Acromion Process.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—November 10th, 1846.—Peter, a black boy, aged 18 years, was thrown upon his right shoulder, in a contest with another boy, and dislocated the clavicle at its scapular extremity, and fractured the acromion process at the same time.

Symptoms.—A perceptible letting down of the right shoulder; flatness or rather a depression at the point of the shoulder, or in the situation of the process, with pain, soreness and discoloration of the muscles of the injured parts; inability to move the arm of the affected side, with much freedom—and attended with great pain in doing so.

Treatment.—Was essentially that laid down for *fractured clavicle.* (See treatment fractured clavicle, case following.) The dislocation was reduced by pushing the shoulder upwards and backwards, and securing the limb in that position by a bandage around the chest, including the limb—after having placed it in a sling. The boy soon recovered the former use of his arm.

CASE 30.—*A crushed arm saved.* By JOHN T. JONES, M.D., Harrison, Tenn.—I have not met with a single case in Tennessee, within the limits of my circle of practice, requiring amputation. I have not performed the operation since I have lived in the State; and to tell the truth, in my humble opinion, amputation is often practiced unnecessarily. And I have long since become convinced, that the surgeon exhibits a higher degree of skill in the preservation of a wounded or diseased limb, and its restoration, than could possibly be displayed in the use of the catlin or saw. True, there are some cases where the knife alone will answer the indications, and amputation alone become a means for the preservation of life.

Since writing the above a case has occurred to my mind which I will here notice. A Mr. Thomas Doughtrey, of this county, while engaged in tending his threshing machine was caught in the machinery and the bones of the hand and forearm were so broken and crushed and the muscles so torn and lacerated that all who saw the case supposed that amputation of the arm would have to be unavoidably resorted to. Dr. Yarnell and myself were called to the case; after consultation we determined if possible to save the arm and hand. After removing the fractured bones (portions of the radius and ulna as well as several of the carpal and metacarpal bones some of them entire) we took up and ligated the most important arteries and brought the torn and

crushed muscles. After trimming off the lacerated and fimbriated fragments into the proper positions and contact, and confining them by sutures and adhesive straps so as to restore the hand and arm to something like its natural appearance, simple cerate on lint and a bandage completed the dressing. By a continuous and vigilant treatment we saved the arm and most of the hand, sadly and hopelessly mutilated as was the case, and much as citizens and physicians believed that nothing short of amputation could possibly answer in his case.

Doughtrey's arm answers him a valuable purpose, he can grasp tools or instruments with the restored hand, and perform very nearly as much labor as he could before the injury—infinitely superior to even a successful amputation is such results. How long, I asked one of our old surgeons, who was in Mexico, would that shattered and mutilated hand and arm have remained attached to the person of Doughtrey had he been in charge of one of our army surgeons? About five minutes, was his reply. Such a practice may be expedient in the military service, but let us not adopt it in *civil practice*, such may do in war, *let us not practice it in time of peace.*

I could mention some other cases where amputations at first glance seemed inevitable, but by strict and careful treatment the necessity was obviated to the future comfort and usefulness of the patient.

CASE 31.—*Fracture of Clavicle.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—Perry, a black boy, aged thirty-seven years, of low stature and robust constitution, fractured his right clavicle near its middle by a heavy lift against the right shoulder.

Symptoms.—The right shoulder was lower than the left, and the sternal end of the fractured clavicle was easily felt, and its prominence seen, riding over its fellow (the scapular end) and appearing just beneath the skin; the patient's whole body inclining to the affected side, with inability to use the right arm with ease and freedom.

Treatment.—The fracture was reduced by pushing the right

shoulder upwards, outwards, and backwards; the arm placed near the side of the chest, and secured in that position by appropriate bandaging around the chest, including the arm; after placing the latter in a sling the boy soon recovered.

CASE 32.—*Dislocation of elbow of twenty-four days' standing.* By JOHN G. BROWN, M.D., Cleveland, Tenn.—November 12, 1856.—While visiting a patient some distance in the country I was called upon by a poor woman in the neighborhood, to examine her son's arm, a boy of about nine years old, who had fallen from the top of a tall fence twenty-two days before and as they supposed broke his arm about the elbow joint. Some men were present at the time the boy fell who pretended to have some knowledge of bone-setting, they splinted and bound up the arm in the extended position and it remained so until the day before I saw him, when they took the bandagings off they were astonished to find the boy could not bend his arm. I examined the arm and found a displacement of both bones of the forearm backwards and outwards. Requested her to send him to town in a day or so and I would try and fix it. He came in town two days afterwards. I requested several of my brother physicians to see and examine the hurt, (as it was a kind of case we do not often see in this part of the country.)

After putting the boy under the influence of ether I reduced the dislocation by flexing the arm around my knee, with the help of an assistant pressing upon the olecranon, placed a bandage and angular pasteboard splint around the arm for a few days; suffered little or no pain during the reduction; recovered perfect use of his arm in about four weeks. The position of this boy's arm was straight and not partly flexed as we are taught in the books, which I attribute to its being splinted up in that position for twenty-one days.

CASE 33.—*Anchylosis of elbow joint.* By RICHARD O. CURREY, M.D., Knoxville, Tenn.—I was called upon during the past summer to relieve an anchylosed joint, resulting from a fracture of the internal condyle of the humerus and dislocation of radius

backward. The accident had been caused by being thrown with great violence from a platform car against a crosstie, some six or eight weeks previous. His attending physician nicely adjusted the arm, and reduced the dislocation, but in the treatment necessary in the case the anchylosed joint had been produced. The patient was referred to me for treatment by his physician, as he did not possess the apparatus requisite for the case. On presentation, he was found to possess the power of only a slight motion in the elbow, but no rotatory motion whatever. The arm was much swollen. There were no dressings upon it, but simply encased in the sleeve of a tight fitting merino shirt. An interval of two days elapsing before he was ready to submit to treatment, in the meantime his arm became as stiff as an iron rod; no motion perceptible to the least degree.

Desirous of overcoming the inflammatory condition of the elbow, as well as reduce the swelling, he was briskly purged by the administration of a blue mass pill every alternate night, followed in the morning by one or two seidlitz powders, and a low diet.

At same time he was directed to anoint the arm, all around the elbow, with mild mercurial ointment every morning and evening, previous to which a *hot elbow bath* was directed, as hot as could be borne, for half an hour at a time, and directing further that repeatedly during the day he should make efforts at bending the joint. At each visit such efforts were made by myself. Pursuing this treatment for two days, the swelling in the meantime having subsided, it was ascertained that he could bend his arm at an angle of about 70 degrees. On the third day there was full motion and by the sixth day, he was able to bend it so as to bring his hand to his mouth. Continuing the treatment for a week, full and free motion was restored and the case discharged from treatment. It became necessary at no time to apply Stromeyer's splint. It is probable that no osseous union had taken place, but perhaps it was altogether fibrous, which was overcome by the mercurial and the hot bath with repeated efforts at motion after bathing.

CASE 34.—*Amputation of arm at shoulder in consequence of*

extensive burn. By JOHN G. BROWN. M.D., Cleveland, Tenn. —February 7th, 1850.—Called to visit Wm. Edergter, aged twenty-two years, a farmer, living nine miles of Cleveland, who had some days before, while in a state of intoxication fallen from a chair in which he was sitting at a late hour of the night, while the family were asleep, so near the fire as to roast his left arm. He awoke in the night wanting water, and on attempting to rise, found he had no feeling nor use of his left arm. He had no pain of consequence in the limb. In a short time Mr. S. a practitioner living a short distance off was called in, after examining the arm he could not tell the extent of the burn but thought it might not be serious, he bound up the limb and ordered him some salts to open the bowels. When I arrived found Mr. S. there. The patient was not complaining much; requested the bandages to be removed that I might see the limb; upon their removal a disagreeable smell arose from the limb, so bad was it that but few persons could remain in the house with him.

The limb was of a dark livid color, upon taking hold of it just above the wrist and pinching it, the skin and muscles gave way down to the bones. The bones had the appearance of having been boiled, and upon extending my examination up the arm I found it in a state of mortification, except in the axilla. Extending a little way down the arm I found the deltoid muscle so injured that the sloughing would likely expose the shoulder joint, hence I determined to remove the limb at the shoulder joint, taking the flap from the axilla.

Being nine miles from town and having nothing but a common surgeon's case of instruments with me, not thinking when I left that I should meet with a case requiring amputation, and evening drawing near I did not know what to do, if I returned to town for instruments it would take several hours. After reflecting a little, I enquired of the persons present if any of them had a large pocket knife, was immediately shown one, a large single bladed pocket knife, shaped like an Arkansas toothpick with the blade about seven inches long, new and sharp just from the store. I concluded the instrument would answer very well, after placing my patient in a convenient position with the assistance of Mr.

Simons to compress the artery over the first rib and grasp the flap when I made the last cut, together with some others to keep him still. I performed the operation by making an oblique cut through the deltoid into the joint, then depressing the arm and passing the knife around the head of the bone and bringing it out below in such a manner as to form all the flap from the axilla, took up the artery, brought up the flap and secured by suture and adhesive straps; recovered from the operation in ordinary time.

At the same time he received the injury to the arm he also got an extensive burn over the lower part of the scapula of the same side, extending several inches below and around the side, which was a good while getting well, the sloughing from this exposed the lower angle of the scalpula and made it necessary to remove a portion of it.

This man was about twenty-three years old, was a farmer and day laborer and from early childhood was very much troubled with asthma, but during his recovery from his burns and until suppuration ceased from those surfaces, he was free from this old complaint; but as soon as he recovered from his burns his asthma returned, but not so bad as before.

CASE 35.—*Dislocation of Shoulder.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—July 20, 1857.—N. E. aged about twenty, male, of delicate constitution, and lax fibre, came to my office and requested of me to reduce a dislocated shoulder. Upon laying bare his shoulder I told him, both shoulders were out of place, to which he replied, the other one had been set some four months previous, but had been reduced by a steam doctor, when the following conversation took place:

Did your shoulder get well after the reduction?

Patient.—It is not quite well yet.

What did the *doctor* do for you?

Patient.—He puked me all day and worked at my shoulder a little.

Did your shoulder feel better?

Patient.—I felt no better at the time.

What did he tell you then?

Patient.—To go home, all was right that my shoulder would not feel much better for two or three weeks, but then it would get better and trouble me no more.

The heads of both os humeri were resting in the axilla, on either side, and the right had been for four months previous, according to the statement of the patient. I reduced the left shoulder in the usual manner, by extension and counter-extension. The right still remains unreduced, living evidence against *steamism.*

LOWER EXTREMITIES.

CASES 36 and 37.—*Two cases of Coxalgia.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—1. On the 10th of September, 1852 I was requested to see C. B. aged sixteen, of moderately robust constitution suffering from *coxalgia* of the left hip joint. Up to my first visit, the patient had not been confined to bed, or even his room; but had been suffered to limp about the yard and elsewhere, as best he could. After diagnosticating the disease to be one of the hip joint, I told the patient and his friends it was a disease hard to control by remedial means, and in general of long duration, under the best directed measures.

Treatment.—I directed the patient to be kept in the recumbent posture and put him under both local and constitutional treatment; but did not succeed in preventing the formation of a large abscess, which was finally opened at the most prominent and dependent part, and an incredible amount of pure pus discharged. The patient was now put upon a more nourishing diet, and every possible means employed to check the discharge and prevent the formation of a sack by well-directed pressure, and various other means. The discharge gradually but slowly diminished, and finally healed, without leaving any permanent injury to the patient. This patient was laboring under the disease about three months; and was reduced to a mere skeleton. He continued to improve in flesh and strength until no trace of disease could be found, and made a robust man.

2. *Coxalgia.*—On the 20th of April, 1853, was requested to see G. K. aged thirty years, married, of sanguine temperament, and

temperate habits, who had been laboring under the above disease, and treated by a quack "root doctor," for more than two months. When I first visited the patient an abscess had formed and had been opened, and a very extensive sac already formed. I informed the patient and his friends of his true, and to a great extent, unmanageable condition, explained as well as I was capable, the nature, course, and probable duration of the disease, and all they might expect from the best directed course of treatment.

Treatment.—Perfect rest in a recumbent posture, with the limb well extended on the affected side, the best directed pressure I was able to bring to bear upon the *extensive sac* already formed; a more nourishing diet, and regular bowels, but not too free; cleanliness, &c. For more than twelve months his case seemed to be a struggle between the disease and the constitution, meanwhile he was kept upon a generous digestible diet and principally in the recumbent posture. Finally, by an imperceptible upward tendency he began to improve, slowly but surely, convalesced and made a perfect recovery. No trace of the disease being left as he is a good day laborer ever since.

I could go on and give many such cases as the two last, but think it unnecessary as it would according to my experience be a useless repetition of cases, of a similar character. The two preceeding cases cover the ground of the principles of treatment. In the first case I had the care of the patient from the onset to its termination in recovery, though I was not early called, but sufficiently so, to terminate the case favorably, in as short a space of time, or perhaps less than the average duration of this troublesome malady. In the second case, the disease from mal-treatment had all the advantage it could get, and left but little room for remedial means of any kind whatever, save constitutional measures, in the supporting and upholding of the system until nature brought about a favorable issue. I will further remark, while on this subject, when early called, the remedies relied on to prevent the formation of an abscess, are purgatives, blisters, setons, &c. The purgatives I use and prefer are cream of tartar and jalap, fomentations, &c., keeping the patient in a recumbent posture. I have not as yet used splints for the purpose of the

more certainly keeping the limb at rest; as was the mode of that greatest of American surgeons (Dr. Physic) but am convinced of their great utility; though from a limited experience believe they can be safely dispensed with in a majority of cases.

CASE 38.—*Gunshot wound.* By J. T. JONES, M.D., Harrison, Tenn.—Samuel Catrell, aged about eighteen years, of excellent constitution and uniform good health, was severely wounded in the thigh by the discharge of a pistol, which he left in a belt fastened around his waist, and which he did not remove before retiring to bed. Some time in the night in turning on the bed the hammer was caused to press upon the cap and the pistol was discharged lodging several shot in Catrell's right thigh a few inches above the knee joint and also wounding a sleeping companion who was in the bed with him at the time, in the leg. A physician of Harrison (Dr. Hale) was called, who examined the wounds and removed as many of the shot as practicable, the wounds were dressed in the usual way for some days and seemed to be doing well as the Doctor believed. In the case of Catrell, however, a high state of inflammation supervened, and large portions of the muscles and integuments contiguous to the wounds made by the shot sloughed and left the bone naked and exposed at two or three points where the shot had entered; a sinuous cavity or canal formed along the femoris extending from the slough above the knee to the hip joint and also to the groin or inguinal cavity; by applying pressure over the hip or groin of the right side, very copious discharges of offensive pus would escape at the wound above the knee. Dr. Hale and others continued to treat the case for several months without any appreciable improvement; another fistulous opening formed near the hip joint from which large quantities of lead colored pus escaped daily for some months until the patient was reduced to a state of extreme emaciation and debility.

A few days before I was employed to treat the case another fistulous opening formed above the right groin over the abdomina ring of that side and continued to slough and enlarge until it measured two and a-half inches in diameter exposing the inguina

cavity and the peritoneum on that side of the abdomen; a large amount of ill-conditioned pus was also discharged from this last opening.

When I first visited the patient I found the last named opening gradually enlarging and the surrounding integuments still sloughing. The right hip, thigh, and leg all involved with foul ulcerated openings and the muscles atrophied or rather so far reduced or perished as to give the entire limb from the hip joint down, more the appearance of the skeleton than of the living subject; the leg remained flexed at a right angle with the thigh, stiff and incapable of extension or further flexion, and as I supposed at first examination, (which however was not the case) completely and irremediably anchylosed; the whole system was greatly emaciated and debilitated, the skin exhibiting a jaundiced appearance; the tongue loaded; the appetite poor, and the bowels obstinately constipated; the urine scanty and high colored, and, in fact, a complete hectic condition rapidly tending to dissolution.

My first effort at treatment was to restore the general system as near as practicable to a state of health. The deranged functions of the liver clearly demonstrated by the color and state of the skin, urine, &c., first claimed my attention. Under the administration of the hyd. submurias in portions to excite and continue a slight ptyalism and the daily use of pulv. rhu. sufficient to operate mildly on the bowels. The liver was restored to its wonted functions and the skin assumed a clear and healthy appearance; the appetite also began to improve and by the administration of iron, barks and port wine in portions adapted to the condition of the patient, the whole system became invigorated and restored to a healthy condition.

With regard to the treatment of the ulcerated limb and the fistulous openings heretofore described I will state, that the first treatment consisted in thoroughly cleansing them with injections of castile soap-suds, followed by injections of diluted port wine, and when fungi appeared, chloride of soda or a solution of nitrate silver; a bandage commencing at the ankle and applied with moderate firmness was continued up the limb to above the hip joint securing under its folds the dressings applied to the ulcerated openings.

The wounds or ulcers were dressed with simple cerate or basilican ointment spread on lint and applied in such a way as to allow the escape of pus.

The fistulous opening in the groin or rather immediately above it, was treated in the same manner as the others, with the exception that adhesive strips were applied so as to bring the walls of the opening as nearly in contact as practicable.

During the first three or four weeks the dressings were attended to twice each day and the wounds or fistulas kept free from fungi. In about three months the patient could sit up in a chair, during the fourth month he could walk a few steps by the aid of a crutch and holding on to an assistant. About this time I commenced the application of relaxing oily linaments to the knee joint and had the joint gradually exercised three or four times daily.

Flexing and extending the leg as much as the muscles and the fibrous parts at the joint would admit of without causing too great pain. At the end of the fifth month the patient could extend the leg and when in an upright position could touch the floor or ground with the foot of the affected side and walk alone by the aid of his crutch; the openings and fistulous cavities had all healed, and by the middle of the sixth month he was able to walk without his crutch and was discharged as cured.

The patient had been under treatment nine months before I saw him and was under my care five and a-half months, making fourteen and one-half months from the time he received the gunshot till he was discharged cured.

Mr. Catrell is quite active, has good use of the wounded leg and is one of our most industrious YOUNG men. He is a citizen of Harrison, Tenn.

CASE 39.—*Dislocation of the left Femur.* By B. F. BELL, M.D., Cedar Creek, Tenn.—Miss Remier, Green county, Tennessee, aged nine years. The head of the thigh bone was thrown upon the sacro-ischiatic notch, where it remained for three days. The limb was nearly two inches longer than the other. No anæsthesia was used; gentle extension of the limb was used

for some time, then lateral extension, by a band round the upper part of the thigh, at the same time bringing the left leg across the right, by which means, the head of the bone was brought into the socket, and the case adjusted. This case was followed by extensive suppuration, reaching from joint almost to the knee. By frequent lancing and suitable applications the limb was healed, of which she has as much use as of the other. It is, in every respect as well as before the dislocation.

Operation January 11th, 1855.

CASE 40.—*Dislocation of Hip.* By JOHN T. JONES, M.D., Harrison, Tenn.—Capt. Wm. J. Rogers was thrown from his horse against a stump causing a complete dislocation of the joint rupturing the ligaments and fracturing the acetabulum. Several physicians were in consultation, the dislocation was reduced, the head of the femur confined in situ. But the case was one requiring a long and tedious treatment, owing to an ulcerated condition of the joint caused no doubt from imprudence on the part of the patient in attempting to exercise too soon after the reduction and while the joint was in an inflammatory condition. The case was under treatment more than twelve months—most of the physicians of our country having seen and prescribed in the case.

After trying various apparatus and means, the patient has been but partially restored, his leg is still somewhat shorter than the sound one, and the ligaments allow the head of the bone to escape from the acetabulum and mount above its rim, a portion of which, no doubt became obliterated during the progress of ulceration of the joint. A history of the case would require more time and space than I can devote to it at present. The patient can walk tolerably well; the motion of the head of the femur up and down over the rim of the socket gives the patient but little pain or inconvenience. The accident occurred I believe in 1850.

CASE 41.—*Fracture of Ilium.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—July 25th, 1845.—I was requested to see D. K. aged about ten years, a healthy, stout boy, who,

six hours previous to my arrival had fallen from a loaded wagon, and one of the wheels run over the ilium, in the direction of the spine of that bone, front to rear, separating a greater portion of the *spinous process* from the body of the bone. There was no serious damage done to the soft parts, or any internal organ, all being to a greater or less extent protected by the bone, and in the direction the wheel took in passing over the body. The spinous process or fractured portion was not much removed from its natural position, though entirely separated from the bone.

Treatment.—Consisted in applying a bandage diagonally over the injured ilium so as to keep the fractured portions together and at rest; venesection; free bowels; light diet, &c., finished the treatment. The patient was soon up and about, and no visible marks of the injury left.

CASE 42.—*Fracture of Leg.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—On the 8th of March, 1852, I was called in haste to J. B. aged seventy years who had been thrown from his horse when in a state of intoxication and both bones of the right leg fractured about four inches above the ancle point, and shivering to some extent the inferior fragment of the tibia. The fracture was reduced and the long splint applied on the external side of the limb, after being well padded a roller bandage applied and the limb placed in a box in a straight position. The fracture kindly, but slowly, united, notwithstanding the age and intemperate habits of the patient. After a labor of about two months, and when all dressings and splints had been dispensed with, and the patient fully able to go about on his crutches, and bear considerable weight on the fractured limb, he unfortunately fell and bent the leg perceptibly at the point of union. In this condition it remained until ossification was complete—prefering a crooked leg to the sufferings (he imagined) he would have to undergo in the straightening.

CASE 43.—*Extensive Burn.* By J. A. LONG, M.D., Cantrell's Cross Roads, Tenn.—December 15th, 1851.—I was requested to see S. M. a female aged eighteen, of full habit, subject to

epilepsy, who in one of her fits, unfortunately (in the absence of any person) fell into a hot fire of coals, and burnt her left thigh extensively and so deep that little hope of recovery was entertained. She was therefore treated domestically for some time. On my arrival so frightful was the appearance, and so painful was the ulcer that it was little, I imagined, if anything, could be done, in the way of a permanent and radical cure, but determined if possible to allay her excruciating sufferings. I ordered the sore cleansed with castile soap and applied slowly a liniment of one drachm of laudanum to an ounce of sweet oil and left my patient to die, with the only consolation, that the dressings would probably give temporary ease. But to my astonishment and great gratification, on hearing from her in about forty-eight hours, she was convalescing and continued to do so, with but little suffering until she completely recovered—having no symptoms of *epilepsy* while suffering from her extensive burn, but upon complete recovery again suffered from her *epilepsy* with no difference of severity.

Case 44.—*Amputation of Thigh—Circular operation.* By B. F. Bell, M.D., Cedar Creek, Tenn.—Lafayette Easterly, aged five years, resident of Green county, Tennessee. General health good. The necessity of the operation arose from the prick of a nail in the centre of the heel, which reached to the bone. The injury produced gangrene of the entire foot and lower part of the leg; there was high inflammatory fever of several days standing. On the ninth day after the prick of the nail, I put him under the influence of chloroform (about four drachms were used) and intended to amputate the leg about four inches below the knee; but when the knife reached the bone, there was a quantity of thick, fœtid pus between the tibia and fibula, I then operated above the knee. The femoral artery, and one of the profunda, were all that needed the ligature. Very little blood was lost, and during the operation the boy felt no pain. With the usual after-treatment, the case recovered, notwithstanding the high fever under which he labored and the heat of the weather.

Operation June 2nd, 1854.

CASES 45, 46 and 47.—*Three cases of Amputations of Leg.* By B. F. BELL, M.D., Cedar Creek, Tenn.—1. *Amputation of the leg—Flap operation.*—Peter Norton, of Madison county, North Carolina, aged forty-three years, very intemperate. Cancer of the foot and leg, originating from a burn in early life, which never healed. It is probable that his intemperate habits were partly, if not solely the cause of the sore degenerating into cancer. Used chloroform (about 1½ oz.) which acted finely, and the patient felt no pain. The ligature was applied to three arteries. Little blood was lost, and with the usual after-treatment, the case recovered.

Operation September, 9th, 1854. Right leg, three inches below the knee.

2. *Amputation of the leg—Flap operation.*—Mrs. Stills, Greene county, Tennessee, aged thirty-six, the mother of five or six children. General health, bad; cancerous ulceration of the foot and lower part of the leg, of fourteen years standing. Used about half an ounce of chloroform which had the desired effect; the patient felt no pain; ligated two arteries; used common after-treatment, and the case recovered. Mrs. Stills had not menstruated for years before the operation, and was in bad health and weighed about one hundred pounds; since the operation she menstruates regularly and weighs about two hundred pounds. She enjoys good health, and is likely to remain so.

Operated January 31, 1855. Left leg, three inches below knee.

3. *Amputation of the leg—Flap operation.*—Mrs. Sutherland, of Washington county, Tennessee, aged forty. She was afflicted for six years with fungus hœmatodes of the foot and lower part of the leg. For several days prior to the operation, she had lost so much blood from the diseased parts, that she was very weak, and the case very unpromising. Used chloroform, about one ounce; she experienced no pain during the operation; very little blood was lost, and three arteries were ligated. The usual dressing was applied, and the after-treatment was left to Dr. Doak. I have been informed that the limb had nearly healed, but that from great prostration of the system she sunk, about six weeks after the operation.

Operated March 21st, 1855. Left leg just below the knee.

CASE 48.—*Gangrene of foot from frost bite—amputation—cure.* By B. FRAZIER, M.D., Pikeville, Tenn.—Thomas Muller, aged about seventy-eight years, was in the spring of 1852 attacked with a violent pain in the bottom of his right foot. This continued to increase for some twelve hours; when I was called to see him, I found his foot very much inflamed, red and considerably swollen, and intensely painful. He had been a man of rather intemperate habits and irregular living, although up to the time of the attack, had enjoyed a good degree of health, and was as stout and vigorous as any man of his age. The night previous to the attack he had been out all night and had suffered his feet to get numbed with the cold, although they were not frozen as the weather was not cold. I applied a bread and milk poultice to the foot; gave him some medicine to move his bowels, and directed morphine to relieve the pain. When I saw him the next day he was still suffering though not so severely; on examining the foot I found two small blue blisters, the one on the bottom and the other on the top about opposite each other and midway between the instep and first phalanges of the toes. I at once saw the incipient marks of gangrene. The entire foot was still red and inflamed; the pulse was rather increased but rather feeble; no fever; skin cool; tongue coated; no appetite. Applied cold elm poultices to the entire foot; gave him some medicine to correct the derangement of the prima via, and opiates to relieve pain. By the next day the mortification had increased rapidly, all his toes and more than one-half of his foot were involved. The gangrene continued to spread and extend from day to day, rather more slowly as it approached the ankle, for several days. The whole foot was now in a sphacelated state; the toes were dropping off, and the diseased mass of what had been muscle, tendon and ligament over and under the foot was leaving the bone, and dissolving away. The disease continued to extend and encroach upon the leg for about eight or nine days after the attack, at length a line of separation began to form between the diseased and sound parts. This seemed to be brought about by alterative and tonic medicines given internally rather than by any local applications.

The line of demarcation becoming definite, and the system having rallied considerably, I thought it advisable to amputate the leg. The whole foot was a dead mass; the bones of the toes had separated and dropped off, and there was no prospect of forming anything like an even and comfortable stump near the line of separation, which extended through the ankle joint obliquely downwards and backwards to the heel.

Accordingly about the fifteenth day from the inception of the disease assisted by Drs. Bell and Kennedy I amputated the leg. The patient was placed under chloroform and suffered no pain; very little blood was lost during the operation. The circular flap was used. The stump was properly bandaged and the patient soon rallied, and expressed himself comfortable and easy. About three days after the operation the skin on the anterior part of the stump, began to inflame, and in despite of all that could be done soon presented evidence of mortification; but by the aid of a well-directed tonic treatment, both constitutional and local, it was soon arrested not however until a considerable portion of the anterior part of the flap had sloughed away. This finally filled up by granulations, and the cure went on well and safely to a final cure.

The old man is, or was some time ago still living at Knoxville, Tenn.

CASE 49.—*Rattle Snake Bite.* By JOHN T. JONES, M.D., Harrison, Tenn.—A Miss Casteel, of Hamilton county, Tenn., aged eighteen years, was bitten on the right leg just above the ankle joint and on the anterior portion of the leg. The rattle snake was of medium size; both fangs penetrated the muscle, and the serpent could not extricate itself until she dragged it several yards.

The weather was very hot being the last days of July, 1850. I saw the patient three hours after the accident occurred. I found the foot and leg much swollen; the patient suffering extreme nausea; pukeing frequently; covered with a cold perspiration and shivering like one in the cold stage of an intermittent; the countenance anxious; breathing hurried; pulse frequent and

feeble, and involuntary evacuations of the urine, every few minutes.

I commenced, as soon as practicable, the administration of strong brandy-toddy, hot as it could be drank, which was repeated frequently in large portions—as much as the stomach would possibly retain, and continued until I perceived a tendency to re-action; an increase of volume in the pulse and a general glow and warmth over the whole surface.

The nausea and puking subsided very soon after administering the first portions of brandy; the countenance assumed its natural aspect, and the pulse began to improve in a short time.

The swelling notwithstanding continued to increase and advance upward extending half way up the thigh; a cord, which had been tied around the leg above the bite, was buried and concealed in the swollen folds around the strictured part, but seemed to exercise but little influence over the progress of inflammation to the parts above it. I removed the cord, and applied a very strong volatile liniment to the whole affected limb; a bandage was applied from the toes to the hip, its folds crossing in such a manner as to leave a portion of the surface around the bitten part uncovered; a sponge saturated with *spiritus amoniæ*, was applied and confined to the bitten part, the bandage was also saturated with the hartshorn liniment and kept so by pouring on the liniment without removing the bandage; the sponge was kept moist with the spts. ammonia, which treatment was continued until the third day. The brandy was discontinued soon after complete re-action was restored, after which a slight febrile action set in, which however was readily controlled by the administration of a few small doses of calomel and Dover's Powder, and castor oil sufficient to operate mildly on the bowels once or twice a day for three or four days; the bitten part sloughed, though not extensively; the swelling had pretty much subsided by the eighth day, and the bandage was removed on the ninth; no further attention was necessary and the patient soon recovered her usual health.

PART III.

EDITOR'S TABLE.

OUR JOURNAL.

We will be compelled, if our subscribers do not remit their dues for the Journal, to suspend its publication after the issue of the next number. There are now more than $1500 due this office for subscription, every cent of which we need to defray the expenses of publication. We have sent out twice during the present year our accounts to delinquent subscribers, and while many have promptly responded to our calls, many more yet turn a deaf ear to our appeals. What are we to think? We have labored for your benefit, and you withhold from us the small amount which you contracted to pay by ordering your name to be placed on our subscription list. Relying upon the good faith of these subscriptions, we have contracted for paper and publication, and now when we need your money to enable us to liquidate those contracts, we are put under the painful necessity of *boring* you through our pages in this manner. We intended every page of the Journal, for medical items, yet we have had frequently thus to stir up your pure minds by way of remembrance, that you are yet in debt to this office, and we needed your subscription to sustain the Journal as the animal needs the fresh pure air. Our books are to be balanced after the issue of the December number, and if the balance which now stands against the Journal is not materially lessened by prompt remittance from our *delinquent* subscribers, we shall be compelled to give up the ship. We cannot labor thus, and bear all the heat and burden of the day, and receive nothing but naked promises to pay from our friends. And if we close, what then? The next thing will be to collect

as we can, and as we cannot visit our subscribers nor be at the expense of sending an agent over the length and breadth of the land to look up these accounts, we will have to resort to—the law to aid us. Come then, good friend, without delay send us the amount you owe, and you will feel better, we will feel better, and even the Journal will look better next year.

To designate therefore those who are particularly addressed by this appeal, the Journal to all such will be enclosed in a *brown* wrapper, while all of our prepaid subscribers will be complimented with a *white* wrapper around their numbers, upon which they will find the word *paid* stamped by the Postmaster.

☞ Dr. Thomas S. Powell, of Sparta, Ga., has been elected to the Professorship of Obstetrics and Diseases of women and children in the Atlanta Medical College, to fill the vacancy occasioned by the resignation of Dr. Jesse Boring.

☞ Gen. Wm. Walker, of Nicaragua has appointed Dr. G. M. Holt, of Wartrace, Tenn., surgeon in his army. Doctor H. has left for the scene of his labors.

PATHOLOGICAL MUSEUM.

The undersigned would direct attention to the resolution adopted at the annual session of the East Tennessee Medical Society, in reference to the establishment of a Pathological Museum in this city, in connection with the Society. Having been elected the Curator, I would respectfully and earnestly solicit contributions from the profession in East Tennessee and elsewhere. The Museum will be preserved in connection with my mineralogical cabinet in one of the rooms of my office, well lighted with a sky-light. Physicians, visiting the city, are cordially invited to call

and examine the specimens, as they will be open for inspection at all times. Several valuable contributions have already been made, and it is earnestly desired that all will feel an interest in its establishment by contributing as far as may be in their power. Address,

RICHARD O. CURREY, *Cor. Sec.*,
and Curator of Pathological Museum.

☞ *Jacksonville, Fla.*—We notice that there has been quite a fatal epidemic prevailing at this place for some time past. Some contending that it was *yellow fever*, but the majority, that it was a *bilious congestive fever*. About seventy deaths had occurred at the last accounts, and business of every kind suspended.

☞ *The Cholera* is again wending its way westward through the Continent of Europe. It has appeared in Sweden, and many of the Germanic states. The English Boards of Health are busy in preparing for the coming of the epidemic.

We have seen it stated in one of the papers, that three vessels had arrived at New York, from Bremen, and on account of the outbreak of the cholera on the passage, had gone into quarantine near that city. One vessel lost over sixty passengers. Not a case manifested itself till several days out from Bremen.

At this rate we may safely calculate that the scourge will be upon us during 1858. Look well to it, all ye who have charge of the condition of cities and towns. We would speak one word of warning to the citizens of Nashville. The epidemic always spends itself with fury upon your devoted heads. The condition of your city never was worse than at present, and do not be lulled into a false security that it will not strike till summer time rolls round. The months of January, of February, and of March have numbered its victims in former epidemics, as well as April, May and June. Our city of Knoxville is provided with a regular-

ly constituted Board of Health, composed of Physicians exclusively, with a health officer to execute their commands. And though we occupy an elevated and healthy location, yet as in 1854 there may be elements at work to render us again liable to the disease.

Then we had such a season of dry warm weather as we had never before experienced, and the works of internal improvement going on rendered those engaged in them susceptible, first of all, to the disease. We have now a direct line of travel from the gulf to the sea-board, and as this epidemic travels along the great thoroughfares of man, may we not have made an electric chain through these mountain fastnesses for the transmission of these dire diseases to our midst. Are we not therefore called upon to be doubly diligent in attending to the sanitary condition of the place. But we should not address ourselves solely to this city. Circulating through the South and West—everywhere let the winter be improved by thoroughly draining and filling up all low marshy places in vicinity of residences, or near towns and cities—for such work can be done more safely now than if deferred till the spring.

☞ *Transactions of the State Medical Society of Ohio, at the Eleventh Annual Meeting, held at Columbus, June*, 1857.—We are much pleased with the earnestness and energy with which our medical brethren of Ohio are sustaining their State Society. "The Transactions" before us evince talent and a determination to sustain the cause of legitimate medicine uncontaminated and pure.

Note the following as a part of its proceedings:

"An action was taken in relation to one of their members who was guilty of making and vending a secret nostrum; he was unanimously expelled.

"Another member who was represented to be a medical gentleman of fine talent and extensive medical knowledge, was dismissed after a lengthy discussion, without a vote of expulsion. The Dr. had been an active member of the Society, and about three months since, entered upon the business of a druggist, and commenced the sale of secret nostrums, but before opening his establishment, proposed to the physicians of his vicinity, to sell no patent medicines, if the faculty would purchase drugs exclusively of him. They were not willing to thus bind themselves, and he commenced the sale of drugs, medicines and

nostrums, but prior to opening his store, he resigned his membership in the county society, where he had long been a member. His friend stated that he would have resigned his membership in the State Society if he could have done so at an earlier date, but the late session was the first opportunity he had had, since he concluded to prostitute his profession.

"His friend applied for an honorable dismission for him, but was defeated in his undertaking. After further discussion he was dismissed, *minus the honorable*"

"On a Substitute for Quinine" in which the committee recommends strongly, nitric acid and sulphate of cinchona.

"On a case of Stone," in which a *pumpkin seed* constituted the nucleus of the stone.

"On the Mineral Waters of Ohio" in which it is said of the artesian wells of Bryan:

"These wells are obtained with but little labor and at a trifling expense. Two men, in from two to four days, with the most primitive kind of instrument for boring, can usually reach the subterranean stream, which, doubtless, has its source in an elevated and probably distant region, from which a jet of water is thrown up with great force through the bore, probably under hydrostatic pressure, and overflows at the surface: and, if enclosed in a tube, as a leaden pipe or a pump-stock, is thrown to the height of six, ten, and sometimes fifteen feet above the surface of the earth; some of them at the rate of sixty barrels or more an hour!"

On a plan "to regulate the practice of physic in the State" in which it is strongly urged to form district or county societies so as to "develop good feeling, and a professional and scientific emulation among the members.

"On Difficulties growing out of alleged mal-practice" in which it appears that this system of professional prosecution is becoming quite a common thing among the people of Ohio, and that too on the flimsiest pretexts, note the following case:

"Dr. J., a worthy man, formerly a practitioner of medicine, is now settled in the quiet pursuits of husbandry. A neighbor, J. S., sustained an injury, consisting of a fracture of the fibula, with dislocation of the tarsus outwards, and consequent laceration of the internal lateral ligament of the ankle-joint. Dr. J. was near at hand when the accident occurred, and was appealed to to render assistance. He told his neighbors that he had long since relinquished practice, and that he could not assume the responsibility—plead to be released—insisted on a practitioner being sent for—but finally gave way to the appeals of his neighbor, not failing, however, to eschew all responsibility as to the result; distinctly impressing it upon the mind of patient and friends that he did it entirely as an act of neighborly kindness; that he could and would not do it in view of compensation; and that, in case any unpleasant contingency arose, he must be released, and a practitioner employed.

"He made an adjustment. The case was doing well on the third day, when, on making a visit to his neighbor, he found a doctor present who was engaged in a plea with the family to undress the limb, that he might be permitted to inspect it. He learned that the doctor had not been employed, but had assumed

to call and look at the case. The family gave way under his influence to such a degree that Dr. J. was now induced to take a determined stand, and formally notify the family that he would have no further connection with the case, and that they were left to do as they pleased.

"The new-comer undressed it, expressed himself as gratified with the condition of the limb and the character of the dressings, and then re-applied them himself.

"Dr. J. saw nothing more of the case, in any capacity, after that time. He learned, however, that the man was to be moved a distance of twelve miles, on the ninth day, and, as professional aid was not yet employed, he suggested that there was danger in such a step, and that it should not be taken without surgical advice and supervision. His suggestions, however, were disregarded—the patient was moved, and the doctor supposed his anxieties at an end. Eventually, however, he gets about. He now finds an angle in the fibula. Ere long there is partial dislocation of the tarsus; he walks on the inner side of the foot; he is crippled, and now the sequel.

"An attorney is consulted, a respectable member of a highly respectable firm. This very worthy gentleman seems to take into account two features of the case. 1st. The crippled condition of his client. 2d. *The fee that glitters in the distance.* At the first he seems to have been smitten with horror and indignation. The last most probably, threw him into a rapture of delight. The two quite overcome him; and he tamely lends himself to this man of narrow head and narrower heart, to engage in the sacrilegious work of resurrecting, resuscitating and rejuvenating the voluntarily dead, buried and abandoned professional character of this kind-hearted neighbor, and for getting, or insensible to the sacredness of that which he prosecutes, exhibits an exquisite relish for besmearing such fair proportions with hated odium—a most ardent zeal in indemnifying his client for the consequences of his own beast-like stupidity and fiend like meanness, and, as a compensation for such eminent services, he takes within his greedy grasp that glittering trifle in the distance, the intensity of whose brightness so overpowers his vision as to obscure and bedazzle all intervening considerations.

The case is now pending and will probably be tried at the June term of the Court of Common Pleas of Union county."

Physicians must protect themselves by requiring an indemnity bond before undertaking surgical cases.

☞ *The Second Biennial Report* of the Geologist of Tennessee has been published by the Legislature, and contains *eight and one-half* pages, all told, the result of two year's work, at a cost of $3000. We have *seen* a copy, though not yet *received* one. As soon as we do, it shall be noticed more at length.

Since the above was written we have received through the kindness of "The Southern Citizen": *The Second Biennial Report presented to the Thirty-second General Assembly of Tennessee, Nov.* 5, 1857. By James M. Safford, State Geologist, Nashville: G. C. Torbett & Co., State Printers. 1857. 8½ pages.

The author promises, if re-elected, to present to the next Assembly "full report of all that has been done both by our former State Geologist, Dr. Troost, and myself, towards the development and elucidation of the mineral wealth, and agricultural resources of our noble State."

The more we have examined into the Geology of Tennessee ourself, and the more we see of the Reports of the present Geologist, the more are we convinced of the value of Dr. Troost's Reports, although they were not and are not appreciated by the people of the State. For we do not exaggerate when we say that, with the exception of classifying the Geological Formations of the State, the First Report of the State Geologist contained but little more regarding the minerals of Tennessee, than that which Dr. Troost had fully set forth in some one of his *ten* Reports, although not so systematically, except *one* chapter, that on the Copper Region of Tennessee, which, as the Geologist spent but a portion of two days in that region, he obtained from facts furnished him by the State Assayer, Mr. Proctor, and from "*The Southern Journal of the Medical and Physical Sciences*," for the author said in a foot-note to that chapter, "valuable facts too have been obtained, and quotations freely made from an article on the "Copper District" in *The Southern Journal of Medical and Physical Sciences*."

The readers of the Journal know that these articles were written by ourself, and although we do not complain that our *name* was not mentioned in connection with the authority above quoted, yet we think that the State Geologist could as well have given the author's name, as to have given only the source through which the articles were given to the public. Who knows, outside of the friends of the "*Southern Journal*," whether it means one published at Augusta or at Knoxville? But we do not complain, it is the way of the world. We would not allude to this, had it not been said to us," there is a great similarity between the article on the Copper Region of Tennessee, in the First Report of the State Geologist, and the same chapter in your Geological Sketch of Tennessee." We could only point to the authority of our Medical Journal, and reply that our book was made up from our articles in our Journal.

As the Third Report is to be a rehashing of all that Dr. Troost did for the twenty years he was Geologist, when for a pittance *begrudgingly* doled out to him by a *penurious* Legislature, he spent and wearied and stinted himself to develop the mineral resources of the State for the claims that *science* had upon him, we are rejoiced to know that his labors are appreciated, as it is requiring *six* additional years by the new State Geologist to confirm what he wrote and adapt it to the present state of geological science.

In this Second Report the author writes strangely when he tells us that "my last Report (the First) *although it does not include the discoveries and researches of the last two years*," &c., which we suppose is a matter of course unless he wished to save labor by writing a *Prospective Report*, setting forth the results of the survey which was yet to be made.

The author also tells us a fact which sets at nought all the labors of amateur geologists and mining operators that "State Geological Reports are eagerly sought after for the information of this kind they contain, and as a general thing it is to be found *no where else*."

In this Second Report the author again lays down the objects and utility of the survey, the plan pursued, and what has been accomplished and what remains to be done—all of which he had descanted upon in his First Report, and which in this brief Report takes up some five or six pages of the eight and a-half it contains.

We quote again from page 6—"much labor has been expended upon the development of the minerals of the State, and but a few months more will be required to place this portion of the work in a proper position to be reported upon fully."

A few words here. When the act creating the office of State Geologist was passed in 1855, we were active in giving shape to that act, and urging upon the Legislature the reasons for its adoption. At that time the copper excitement in East Tennessee was high, and extending to all parts of the Union. To save our citizens as much as possible by aiding in developing their valuable mineral deposits, and to prevent the useless expenditure of time and money where no such mineral wealth existed, the office was

created. What has been the result? We know of a truth that out of four year's work by the State Geologist, not six months have been spent in East Tennessee—and of even this time, not *one month* altogether in a *special* examination of her mineral deposits, and yet we are told that "the material for the Report" on the mineral resources of Tennessee "is already complete." Whence then comes his information? Let us see into this. Dr. Troost describes in his Reports nearly every deposit of iron, lead, zinc, coal, marl, alum, saltpetre, &c., that the present State Geologist has noticed. He particularly described the *Eastern Iron Region*, *the Dyestone Region*, *the Western Iron Region*, although not by these names. The clay-iron stone of the Cumberland mountains was first noticed by Prof. Mitchell, formerly of East Tennessee University. The lead and zinc ores of Powell's valley and Newmarket valley were described and analysed by Dr. Troost and he also dwelt particularly upon the marble of East Tennessee, its alum caves and rock houses composed of immense beds of excellent roofing slate. He also traced out and analysed the coal of the Cumberland range—spoke of the limestone of Middle Tennessee, the marl and green sand of Western District, so that if his Reports were condensed and *modernized*, they would embrace every important fact respecting the geology and mineral wealth of Tennessee, except that relating to the Copper Region, to be found in the two Reports of the present Geologist; so that we cannot otherwise consider the Reports so far made, with but few exceptions, than as a clearer and more systematic arrangement of facts which were discovered by Dr. Troost through hard labor, and with the poor compensation of $500 per annum, hardly sufficient to pay his traveling expenses. And yet but a few months, we are told, are necessary to complete the examination of the minerals of the State, so as to be reported upon fully, not that sufficient time has not already been given to gather all the necessary facts for a final Report, provided the entire time of the Geologist has been employed in it as the act requires, but the First Report the author styles a *Reconnaisance*, and the Second only informs us that a final Report will be made two years hence, if continued in the survey. We hope that the principal part of

these two years, will be given to East Tennessee, as the importance of her mineral deposits and the complicated character of her geological formations demand more investigation than they have as yet received.

But the present State Geologist deserves credit for his systematic arrangement of this work, and for his accurate map of the geology of Tennessee, and trustingly we look forward two years to a Report that will contribute to the wealth of the State.

☞ *The Physician's Pocket Dose and Symptom Book*, containing the doses and uses of all the principal articles of the materia medica and chief officinal preparations; also tables of weights and measures, rules to proportion the doses of medicine, common abbreviations used in writing prescriptions, tables of poisons and antidotes, dietetic preparations, table of symptomatology, outlines of general pathology and therapeutics. By Joseph H. Wythes, A.M., M.D., author of Microscopist, &c., Second Edition, Philadelphia, Lindsay & Blakiston, 1857. (From the Publishers.)

Such is the title, expressive truly, of the valuable little *Thesaurium* of 230 pages. It will come in right handily to all those who are not familiar with doses and forms, for it might be carried in the pocket and consulted in any emergency.

☞ *The Charleston Journal & Review* for November, publishes a long list of subscribers who had paid for that Journal for the present and next year. If the Publishers had added also those who had failed to pay, as we contemplate doing in our December number, and if all Journals would adopt this course, it would prevent many a "dead head" from herding with us. Let there be a general determination to admit no name to the subscription list of any Journal after the 1st of January who has not paid down in advance. Who will say *aye*, to this proposition?

NEW YORK CORRESPONDENCE.

NEW YORK, Nov. 14th, 1857.

Dear Doctor:—I arrived in this city about ten days ago after an absence of ten years; such changes have taken place that everything almost was new to me. However, I found the Medical University and all the old Professors, except two, Dickson and Pattison whose places as you are aware are filled by two highly accomplished gentlemen, Drs. Mettcalf and Van Buren. The facilities for acquiring correct information has been greatly increased in the last seven or eight years, and the establishment of medical, surgical, and obstetrical clinics by the Professors, after the Parisian plan, together with the increased hospital facilities, have rendered New York superior to any place in the United States for obtaining medical and surgical knowledge. Soon after my arrival I visited many places of interest, a brief account of which I will give you.

First.—Eye Infirmary, where still remains the gentlemanly and accomplished Dr. DuBois who has been for many years its principal physician, ever willing and always ready to impart knowledge to the student.

Here were exhibited many, I may say, almost every character of disease of the eye, at least one hundred cases being presented daily, among which may always be seen a number of well marked cases of the principal diseases of those organs.

Second.—The New York Hospital, where among them any interesting cases in medicine and surgery were several of inflammatory and chronic rheumatism. These cases are treated, as Dr. Smith informed us, upon the alkaline plan. He says he has found this plan to succeed better than any other, and he has followed it for the last three years. It is the plan now followed by all the professors in this hospital. Rochelle salts is the medicine administered.

Third.—Bellevue Hospital, where through the politeness of Dr. Jas. B. Wood I was shown many interesting cases of disease and witnessed many interesting operations.

My attention was next directed to the meeting of the New York Pathological Society, which holds its meeting on the second and fourth Wednesdays of every month. Here from the many interesting specimens I select three for notice.

Dr. Detmold asked the suspension of the rules of the Society, that he might present, not a pathological specimen, but an individual who possessed the strange faculty of becoming cataleptic at will. His request was granted, when he introduced a boy nineteen years old, of common size and health. The Doctor said he did not know anything as to the history of the boy or his family, but that if the boy's mind was taken from surrounding objects, he would pass into that state of catalepsy in which the muscles are fixed, remaining in any position he might be placed. Accordingly he was led to a dark corner of the room, with his face looking into the corner, in order to take his mind from surrounding objects, and in about two minutes he was removed from the corner in that fixed attitude in which he was standing. No movement except the whole body. In being brought from the corner he moved altogether like a stick of wood. He placed his arms in several positions and they would remain perfectly inflexible and stationary; the mouth was opened and it remained so; his head was pulled around and in every position in which his limbs or head were placed, they remained; his countenance presented a singular appearance of unconsciousness. After remaining in this state three or four minutes, he seemed to awake as from a sleep.

Next was a specimen presented by Dr. James B. Wood of strangulated inguinal hernia. A very small portion of the bowel was involved forming a tumor so small that it was not recognized during the life of the patient.

Dr. Wood stated that he presented it on account of its history, together with its showing how small a portion of the intestine, when strangulated, might produce death.

He stated that this patient was treated for diarrhœa. However his physician towards the last had some suspicions of hernia from the vomiting, &c., which the patient had: the bowels however were loose all the time and this was the singular feature in

the case. Some one asked the Society how many cases of strangulated hernia they ever saw *with loose bowels.* One gentleman, I do not know who, replied he had seen only one, none of the others spoke.

Next was a specimen presented by Dr. Wood of a portion of the spinal column of a lady who had died some days previous in Bellevue Hospital, showing an oblique fracture of the body of the fourth dorsal vertebra together with its left lateral process broken off. The history of the case was, that some months before while the lady was attending to her domestic duties, she fell from a step-ladder, a distance of six feet, at the same time alighting on her feet, producing this rare injury. She immediately became paraplegic, was removed to the hospital, and there died of bed-sores and general exhaustion. This is a rare case indeed; we are taught that fractures of the body of the vertebra rarely occur under any circumstances.

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PART I.

ORIGINAL MEMOIRS AND CASES.

ART. XXII.—*Diabetes and its Treatment, in its relation to the Investigation of Chemistry*, according to the researches of M. Mialhe (Chimie applique a la Physiologie et a la Therapeutique.) By RICHARD O. CURREY, M.D., Knoxville, Tenn.

According to M. Mialhé, the sugar formed in the animal economy, and which is analagous to grape sugar, is derived from the food, and undergoes such transformations as to adapt it to the wants of the organism. The kind of food which contributes to the formation of this *glucose* belongs to the amylaceous class, of which starch is the type.

M. Bernard, the distinguished physiolgist, however advances the opinion, based on his own researches, that there are two sources from which this sugar comes—the one internal and the other external. The first is the liver, which as a secreting organ produces it, the same formation being found in all vertebrate animals, let their food, age, or sex be what they may. The second source is the food, and its existence is consequently affected according as this is changed, experiencing an abatement in

abstinence, and a reproduction when digestion is going on; and being produced at the expense of the blood as it passes through the hepatic tissue, it of course decreases gradually in proportion as the quantity of blood suffers diminution by the withdrawal of food.

Whilst therefore M. Bernard makes the liver a *secreting* organ of sugar, M. Mialhé regards it only as a *collecting* organ, in which the sugar accumulates, from the digestion of amylaceous substances.

It is a fact generally conceded that the nature of the food affects the quantity of sugar in the blood, for if it be amylaceous, the blood of the liver is found to contain much; if albuminoid, in less quantity; and if all nourishment is withheld for any length of time, it may be entirely deficient. Bernard, as well as all other physiologists, admit the controlling influence of amylaceous food in the generation of sugar in the animal organism, so that the difference in the views of these two physiologists turns upon the simple point of the true function of the liver, does it secrete or does it accumulate sugar. If we trace out the process of digestion from the introduction of food into the mouth till it has undergone the necessary changes for the wants of the animal economy, it will be seen that one of the effects of the saliva is to convert the starch of our food into diastase—this transformation even continuing for some ten or fifteen minutes after it has passed into the stomach and thence to the duodenum, being there still further acted upon by the pancreatic juice. Thus originating, it certainly is not *secreted* by the liver, but as Mialhé maintains, there *collected* by the liver to answer certain physiological purposes. If it is *secreted* it would moreover imply its existence in arterial blood, in which it is never found. Why, may it be asked, is it never met with in the secretions in a healthy condition of the system, being only to be found in those in a pathological condition? and how does it disappear so rapidly from the blood of the veins, that there is not left, a few hours after its introduction into the system, any appreciable trace of its existence? What decomposition does it undergo, and by what agencies, to supply the wants of the animal?

These are questions of great importance, not only to physiology, but also to the nature and treatment of several serious ills which the physician is called upon to treat, explaining several pathological conditions, and which can only be elucidated by the discoveries of chemistry.

As stated above, the amylaceous portion of our food, to some degree, undergoes a change in the mouth from its admixture with the saliva, and which Mialhé has designated as salivary diastase. To this view, although discredited by some physiologists, the experiments of Leuchs, Wright, aud Budge with Mialhé have tended to confirm. This commencement of transformation is still further effected when the food reaches the duodenum and it comes in contact with the pancreatic juice. Thence it passes, thus changed into the small intestines, whence, as all other soluble and absorbable substances, it passes through the membranes by endosmosis, to be mixed in the circulating current. Thus far can we go in our observation, after which we are only to judge by analogy and induction. This is a process of reasoning, which has been applied to the sciences, and has already been productive of great results. Why may it not be permitted in the study of physiology, to employ the inductive method, basing it upon an exact observation of the phenomena of nature, and upon the profoundest knowledge of the laws of chemistry?

Glucose is without doubt the cause of all the chemical reactions which we attribute to cane sugar, just as it is affected without the organism through the agency of oxygen, acids or alkalies; for cane sugar is not decomposed by the alkalies, and is not fit for nutrition, only as it becomes *interverted sugar* or glucose through the action of acids or ferments.

Exposed to a temperature of 140°, glucose loses its water and is converted into *caramel* and develops a sweet odor; at a higher temperature, it goes off in an inflammable gas, composed of carbonic acid, a brown oil, acetic acid, acetone, and finally a residue of charcoal.

Heated with muriatic or sulphuric acids it is converted into a brown or black substance, ulmin, ulmic and formic acids; but if treated with the same acids, cold or at a temperature of 32°,

it undergoes no change; heated with soda, potassa or their carbonates, it forms combinations called *glycosates*, compounds however, which are readily destroyed, and give place to a reddish product, containing ulmin, formic acid, glycic acid and melassic acid, and these in turn still further changed, are converted into water, carbonic acid, and brownish ulmic products, differing only from each other in the quantities of oxygen and hydrogen to form water. Caustic potash, in a solution of glucose, gives no precipitate when a salt of oxide of copper is added. The color of the test however assumed a beautiful azure tint, changing to a green, and then depositing a reddish powder. With chloride of sodium, glucose forms a beautiful crystalline compound.

The feebler acid salts, as carbonates, can be displaced by glucose; not so with the stronger, as phosphates, sulphates, &c., an important fact to be observed in adapting our remedies to the treatment of the disease mainly attributable to the superabundance of glucose in the system, and which manifests itself so unmistakeably in the urine of the diabetic.

Among the tests of sugar, or glucose, the most convenient, and the surest is that of TROMMER. It consists in acting upon the suspected substance with a salt of oxide of copper in presence of an alkaline solution. A glance at the mode of performing this test may be of service to some of our readers.

Trommer's Test.—To the suspected fluid add *caustic potash* and filter if a precipitate falls. To this add gradually a diluted solution of *sulphate of copper*, when a precipitate falls, which disappears on being stirred. The mixture then assumes an azure tint, which after a short time, changes to a pure red or yellow precipitate, which is the salt of copper reduced to the state of an oxide. The quantity of sugar present is proportional to the quantity of oxide of copper reduced. Thus we "take 69 grains of crystallized sulphate of copper and dissolve it in five times its weight of distilled water, and then add, first, a concentrated solution of 268 grains of tartrate of potash, and then a solution of 80 grains of hydrate of soda in one ounce of distilled water. Put the solution into an alkalimeter tube, and add distilled water so as to make 1000 grain measures of the liquor. 100 grain

measures of this solution will be equal to 1 grain of grape sugar." This test fluid is used with the suspected fluid diluted, in such quantity as to effect the decomposition of the sugar and the oxide of copper.

The least quantity of alkalinized glucose, existing in syrup intended for pharmaceutical preparations, changes rapidly corrosive sublimate into calomel. So that glucose has no property of uniting directly with oxygen, it must be decomposed, and changed into new substances, and these changes can only take place under the influence of the pure alkalies or their carbonates. So much for the chemical reactions of glucose without the organism.

How is it affected within? The phenomena of metallic reductions are clearly established; in experiments upon animals, the red ferri-cyanid of potassium, in solution, injected into the veins is given off in urine as the yellow ferrocyanide; in poisoning with the salts of copper, the salt is decomposed, the binoxide passing into the protoxide, through the action of glucose; in poisoning with corrosive sublimate, glucose transforms the deutochloride into proto-chloride or calomel, and hence the value of albumen and starch in such cases as an antidote. Practice long since having directed to the proper treatment in all such cases, in advance of a true knowledge of their action.

We may note that in these chemical decompositions we have processes strictly analogous to those which we perform daily in our laboratories. What therefore are our deductions? As like causes produce like effects, and as it will be admitted that the presence of pure or carbonated alkalies are necessary to transform glucose into new products, so that it may then unite with oxygen, so analogy sustains us in the confident opinion that in the animal economy, glucose requires the same controlling agency, the intervention of pure or carbonated alkalies, to transform it into ulmic substances so as to combine with the oxygen of the blood. Hence may not this be the cause of the difference in color and properties between arterial and venous blood?

In the normal state, these alkaline carbonates exist in great proportion in the blood; glucose finds therefore, in the animal

economy, every condition favorable for its transformation and oxygenation.

This we believe to be the order of these phenomena.

At its arrival in the blood, the glucose decomposes the alkaline carbonates; forms with the bases new products, called *glycosates*, and sets free carbonic acid. The glycosates being weak salts, are rapidly changed into glycic, ulmic and formic acids, or rather into glyciates, ulmiates and formiates, which combine with the oxygen of the blood and undergo a true combustion, giving off water and carbonic acid.

We see then that carbonic acid comes from two distinct sources; the one from the decomposition of alkaline carbonates, and the other from the combustion of the salts derived from glucose. Part of the carbonic acid is rejected from the system, the remainder combines with the alkalies set free by combustion, and again forms carbonates, which in time seems to decompose the fresh quantity of glucose arising from the circulation. There is thus established a circle of reactions which insures the complete oxydation of glucose, and renews the proportion of the alkaline carbonates necessary for the economy.

Thus the destruction of glucose is a phenomena of combustion, and thus it is by the intervention of the alkalies of the blood that glucose and its congeners are decomposed, oxydized and condensed, and become *true respiratory aliments*.

But besides serving for the functions of respiration and calorification, glucose fills an important part in the great act of nutrition, so that its assimilation could not be prevented or simply vitiated resulting in great disorders of the organism.

If under certain circumstances, glucose is not decomposed, it is rejected as a foreign body from all the organs of secretion; it is this which constitutes *diabetes* or *glycosuria*, a disease always characterized by a very abundant secretion of urine, more or less saccharine.

Such urine, inodorous, transparent, like clarified whey, presents a very remarkable density; boiled with solution of potassa, of soda or lime, it assumes a reddish brown color, the darker the greater the proportion of glucose it contains.

It is attended with serious symptoms; dryness of mouth; unquenchable thirst; extraordinary hunger; loss of the bodily strength, of vision of the generative faculties; absence of perspiration; constipation; general emaciation and waste of tissue; in a word, of all the disorders which characterize phthisis. The cause of all this derangement, is the presence of sugar in the urine; but what is the cause of this? To find it we have investigated, yet unsuccessfully, every malady, examined every hypothesis. It has been regarded as irritation of kidneys, chronic gastritis, a special affection of the digestive organs, aberration of the assimilating functions, a particular agent existing alone with the diabetic, &c.

If glucose ceases to unite with oxygen to assist in the functions of respiration, calorification and nutrition; if, becoming a foreign and useless body, it passes into the secretions, it is because some powerful abnormal cause prevents its decomposition. It is because the chemical phenomena, which are normally performed in the economy, undergo a remarkable and extensive disturbance, owing to the want of sufficient alkalinity in the animal fluids.

The digestion of amyloid substances is affected exactly in the same manner with the diabetic as it is with the healthy individual; in each there is a change of starch into glucose, under the influence of saliva and pancreatic juice; only that with the one, glucose is decomposed on account of the presence of alkalies, contained normally in the animal humors, whilst with the other, the diabetic, there is an insufficiency of alkalinity, and consequently a want of decomposition.

Among the principal causes of this diminution of alkalinity we may mention the abuse of acid liquids, an exclusively nitrogenized food, suppression of perspiration.

In the healthy adult, the blood is alkaline, and must remain so for the healthful performance of the organic functions. But the elements of acidity, constantly introduced into our bodies, would not prevent its predominance if they were not incessantly eliminated by special secretions, the perspiration and urine.

From whence it follows that the physical condition of the system possesses one order of secretions always acid, those of

the skin, the gastric juice and urine, and another always alkaline, the tears, saliva, bile, pancreatic juice and feces.

But the action of these secretions is not owing to the effect of an immutable law of the organism; it results from the fact that the acid and alkaline principles exist in a certain relation, which should it be destroyed, results in a pathological condition of the secretions. Now as food and medicine continually change the condition of the blood, nothing is easier to conceive than the destruction, under their influence, of this relation between the acids and alkalies, which is one of the essential conditions of health.

Medicines are accidental elements in the economy and have only a momentary influence, which ceases to be felt very soon after their administration. It is not so with food; the indispensable condition of existence, it exercises an influence which is renewed at every instant, and whose effects are much more durable.

The combustion of absorbed and assimilated food gives birth to the same products as those which result from the fires of our laboratories; it engenders acids, if the sulphur and phosphorous prevail, as in animal substances; alkalies, if the alkaline salts form organic acids are in abundance, as in vegetable substances.

Thus it is that men who reside in cities, using a strong animal diet, taking little exercise, perspire but little, and afford but little activity to the phenomena of combustion; hence often an insufficiency of alkalinity, and are therefore affected with urinary calculi, rheumatism, gout, diabetes; whilst the hardy countryman, with his food almost altogether vegetable, free perspirations and an active combustion, determined by the hard work to which he is subjected, maintains his fluid in a healthy state of alkalinity, and escapes all those infirmities generally the lot of the rich and sensual.

We find also in animals, from the same causes, very acid urine in the flesh-eating, and very alkaline in the herbivorous.

The veal presents a remarkable example of the two very different conditions, and nevertheless very compatible with health; whilst it is fed on the milk of its dam, it is carnivorous, and as

such has acid urine ; but as soon as its nourishment is changed, as soon as it is put upon a vegetable diet, its caseine becomes alkaline, and it presents also a marked alkalinity in all the fluids of its system. In all those animals which live on acid fruits, nature has placed the remedy by the side of the malady. Diabetes is a rare disease among them. It is because the fruits contain always a considerable proportion of alkaline salts from organic acids, capable of being consumed, as it were in the blood and then being transformed into carbonate of potassa.

A glance at the relative influences which control organized matter, whether vegetable or animal, will reveal to us that they are, in the main, similar.

Animals assimilate the neutral carbo-hydrogens, such as starch, sugar, &c., only so far as they are decomposed by the alkalies contained in the vital fluids, and transformed into different ulmic products. Vegetables cannot have uniformly such neutral carbo-hydrogens as starch, lignine, as elements of nutrition, only as far as they have been decomposed by the alkalies contained in the soil, and changed into different products, in the number of which is found ulmic.

In animals, the blood contains glucose only in an *abnormal* state, pathological; and in vegetables, the sap contains it in a *normal* state, as glucose or grape sugar physiologically. The reason of this difference is that the sap is neutral or acid, never alkaline, whilst the blood is normally alkaline, and the presence of alkalies is incompatible with that of glucose. But if accidentally or intentionally, we arrest the secretion of the skin, or if we convey into the animal organism, daily and immoderate doses of acidulated or easily acidifiable substances, the blood loses its alkaline qualities ; saturated by the acids, it becomes less alkaline, assumes chemical characters analogous to those of sap, and the existence of sugar, of starch, or glucose results, which is a diabetic condition.

On the contrary, if we modify the acidity of the vegetable by watering it with a slightly alkaline solution, the sap acquires the property of blood ; sugar is not produced, or rather it is destroyed as fast as it is formed. The tree may be said to cease to be

diabetic, for its saccharine secretions and its saccharine fruits are checked.

In diabetes many if not all the secretions change their chemical nature. The saliva becomes more acid and reddens litmus paper; the urine is more acid as well as saccharine. Magnesia, if administered, is apt to excite overpurgation from the soluble salts which it forms with acids of the intestines—all clearly demonstrating that there is a predominance of acidity, more than is requisite for the normal condition of the various organs. From these facts therefore M. Mialhé draws the following conclusions:

1st. That the change of fecula into glucose is not peculiar to diabetes alone, as it does not constitute an accidental abnormal phenomena, being on the contrary, the necessary and physiological result of the digestion of amylaceous substances.

2nd. That glucose can only be decomposed, to become fit for the wants of the organism, under the influence of alkalies contained normally in the blood.

3rd. That from observations and experiments instituted, it is found that by varying the acid or alkaline elements in our nourishment, we can determine the absence or presence of sugar in the secretions. From all of which we conclude that the disease called *diabetes*, is attributable to a defect of assimilation of glucose in consequence of the want of sufficient alkalinity in the fluids of the animal economy; and for alkaline principles, we mean the free bases or their carbonates and not the alkaline phosphates. This is the view presented by Mialhé, in accounting for this disease.

It has however been attributed by Bouchardat to a pathological modification in the digestion and the absorption of fecula; by Bernard, to a special lesion of the nervous system; by Reynoso, to a constraint of the functions of respiration, from whence results an incomplete combustion of glucose.

Now when it is remembered that the digestion of amylaceous substances and the formation of glucose are the same, whether in health, or in the diabetic, there is only a difference in the phenomena of decomposition and oxydation.

But the theories of Bernard and Reynoso are entitled to the

greatest respect, for combustion of glucose can be embarrassed by other conditions than an insufficiency of alkaline carbonates; every pathological or physical lesion, acting upon innervation, the circulation, hematose, would excite an incomplete oxydation, and in consequence, the passage into the urine of a greater or less quantity of undecomposed glucose. It is thus that glucose appears in the urine of animals strangled or drowned, in the urine of the aged, who breathe with difficulty, in diseases involving the nervous centres, in epileptics, soon after an attack, in persons just beginning to pass under the effects of chloroform or ether.

The general phenomena of combustion are therefore in direct ratio with the distribution of glucose, and every thing that would excite the circulation, walking, work, muscular efforts, pure and abundant air, would be favorable to this destruction.

As a proof of the influence of motion and of fatigue upon the phenomena of oxydation, we point to the difference of chemical composition in the urine of sedentary and active persons. In the first, the sedentary, there is a great quantity of uric acid, and little urea; in the second, little uric acid, and very much urea, being a more advanced state of oxydation.

This difference is also noticed in the effects resulting from taking thirty grains of tartrate of potassa and soda. If violent exercise is taken soon afterwards, in less than two hours the urine becomes alkaline, but if a state of rest is observed, then it will require four or five hours to become alkaline.

TREATMENT OF DIABETES.

There is no disease which has been attributed to as many causes as diabetes, and this uncertainty as to its pathological origin, has produced such a variety of treatment, that for the want of success, it has been regarded as incurable, and less subject to the control of medicines than any other disease of the system.

It is moreover a disease which has increased in frequency of late years, as the habits of society have changed.

Remembering that the disease is mainly based upon the character of the food to which the individual is accustomed, the first

step in the treatment of course would be to direct special attention to this, at the same time to direct the use of such alkaline medicines as would affect the glucose of the urine.

To establish the normal condition of the vitiated fluids, and the natural order of the assimilating functions, by introducing into the economy the alkali which is wanting, and by expelling the acids which predominates; to render active the phonomena of the combustion of glucose; we regard as the end to be attained in the treatment of this disease.

To fulfil the first indication, we administer limewater, magnesia, carbonated mineral waters, carbonate of soda, &c., the idea being to alkalizate the blood as rapidly as possible. The carbonate of soda is here prescribed in doses of nine grains, three times daily, increasing each dose about every other day one grain until some twenty grains are taken at a dose.

M. Bouchardat recommends the carbonate of ammonia, but although he intended it as a sudorific, yet it acts as an alkali; if magnesia is used, care must be taken that it does not excite overpurgation, on account of the acid salts which it may form in the bowels.

To excite perspiration, alkaline baths, vapor baths, flannel, friction, bodily exercise, and sudorifics may be used.

The diet should be mainly of animal food. Amylaceous substances should be prohibited, at least for the first days of treatment, in order to give to the organic liquids time to be deprived of the excess of sugar, after which they may be used in moderate quantity to accustom the economy to their assimilation.

It is not necessary therefore to withhold entirely such articles of diet as bread, fecula, and especially vegetables; the portion which would be assimilated by the aid of the alkalies used, would always be advantageous to the economy and would even increase daily, in consequence of the removal of the normal condition of the fluids.

It is highly necessary to vary the food, and to give, as adjuvants, wine, and coffee: but we must banish with care every saccharine substance. We would insist also upon exercise daily, especially in the pure and fresh air of the country.

The dimness of vision, attendant upon this disease has been referred to a pathological lesion of the optic nerves, but we think that it results only from an accidental opacity of the humors of the eye; in the diabetic, the serum of the blood, instead of being transparent, as in health, is, on the contrary, opaline, of the appearance of milk, a fact which Rollo, Dobson, McGregor and Thompson have established. Hence dimness of vision results, which disappears, as soon as the crum of the blood comes under the influence of the alkalies.

Constipation, which ordinarily and obstinately remains, may be explained from the insufficiency of alkalinity. The bile being interrupted in its course for the want of due fluidity, does not flow readily into the intestines, and hence results constipation.

The alkaline treatment therefore recommended will have the effect:

1st. To determine the assimilation of glucose, and thus to arrest the disease itself.

2nd. To re-establish the transparency of the fluid which under the influence of acids, assumes the appearance of milk.

3rd. To restore health, and consequently the normal condition of the organism.

We offer then these conclusions to the whole subject:

Glucose, whether within or without the system, is subject to certain chemical laws.

It can only be united with oxygen after having been decomposed into new products under the indispensable influence of free or carbonated alkalies, such as ulmic, formic, glycic, melassic acids, which form with the bases, new salts.

The combination of these products with oxygen is a true combustion (as that of the tartrates, citrates, &c.,) which produce always identical results, such as water, carbonic acid and ulmic substances.

In the organism, it is the blood which furnishes the elements of decomposition and combustion, as alkaline carbonates and oxygen.

If these elements are in sufficient quantity, the glucose is

destroyed completely, and no trace is left; if, however, insufficient, the glucose which is not assimilated, is rejected through the secretory organs.

Consequently, to remedy the affection, it is necessary to restore to the economy the proper conditions for the decomposition and combustion of the glucose, by administering alkaline carbonates, and by exciting the functions of circulation and respiration.

PART II.

MONTHLY MEDICAL RECORD.

CHEMISTRY AND TOXICOLOGY.

1. *Report on the Recent Contributions of Chemistry to the Medical Profession.* Read before the Pathological Society of Baltimore, June 16, 1857. By Dr. LEWIS H. STEINER. (Concluded from p. 264.)—The effects of sweet spirits of nitre,* when inhaled, have also been found to be anæsthetic, but of a character that makes us fear its use by inhalation, as deaths have been produced in this way. It seems to act by destroying muscular power first, then reducing the pulse so that the feebleness of the circulation in the extremities causes these to become quite cold. The mind remains calm, and there is no feeling of pain or even consciousness of muscular debility until efforts are made to make special exertion. These symptoms have been particularly noticed in those engaged in making the article. It is suggested that great precautions being adopted, it might be used in the mania of delirium tremens.

Collodion† is employed by Dr. Macke of Sorau as the medium for the application of corrosive sublimate to nævi materni, and the compound is called caustic collodion. It commends itself to use for two reasons—on account of its application to parts where it would be difficult to keep a liquid caustic from attacking adjacent parts, and to those where the discharge of excretions might wash off the caustic employed. The proportions necessary for its preparations are 4 parts of the chloride of mercury to 30 parts of collodion, and the application is accomplished simply by the use of a camel's hair brush. The collodion dries rapidly, and thus confines its action to the part covered, in the first case. When much inflammation follows, it may be necessary to use cold applications. The eschar separates in from three to six days, hav-

* The Chemist, iv, 429.
† Chemist, iii, 572.

ing rarely more than a slight cicatrix. This additional use of collodion, for which the surgeon has already found so many applications, is another illustration of the contributions medicine is daily receiving from the hands of the chemist.

Gutta percha and caoutchouc have also been employed for the preparation of caustic agents, being used in combination with caustic potassa or the chloride of zinc. This application was first proposed in France by M. E. Robinquet.* He had been requested by a surgeon to suggest some method by which the two caustic substances just mentioned could be employed so as to cauterize fistulas, more or less sinuous in their character, with the further power on the part of the operator to leave them as long in contact with these parts as might be required, and to withdraw them at pleasure. He found that it was an exceedingly easy matter to unite either of the caustics named with gutta percha by the aid of heat, and then to form out of the plastic mass either cylinders or pastilles. The proportions seem to be a matter of very little importance, depending on the strength of caustic required. Two parts of chloride of zinc might be heated along with one part of gutta percha, in a porcelain capsule over an alcohol lamp. The gutta softens under the action of the heat, and becomes thoroughly impregnated with the caustic. Such caustics are like sponges, and retain the caustic agent within their pores so as to resist the deliquescent action of the atmosphere, although they yield it up to the force of capillary existing in living organic tissues. The inventor advises, in order to use these caustics, that they should be first dipped in alcohol. The advantages claimed for this application are simply these: "The gutta will not itself undergo any changes in the tissues; it preserves its consistence and flexibility; on account of its suppleness, it can be forced into natural canals, such as the nasal and the urethra, or into diseased and tortuous passages like fistulas; the capability of being applied in any way that the surgeon desires, and the property of allowing, as already mentioned, the exudation of the caustic material employed." These are by no means small advantages, and all of them are really possessed by these caustics. The caustic does not require heavy appendages such as the usual porte caustique, but is light, convenient and efficacious; furthermore, every medical man can manufacture these caustics as well as he can purchase them. Economy certainly cannot complain of the cost of materials in this case.

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* Jour. de Chim. Med. ii, 31; Jour. de Chim. et de Pharm. xxx, 275.

Some interesting facts have been educed, from a variety of publications, embodying the studies and researches of savans, on the subject of glycerine. Its discovery dates back as far as 1789 by Scheele, but little or nothing was known of it until Chevreul began the study of oils and fats. It is known as the sweet principle of fats, and is really the base with which the fat acids are united in the composition of all fatty bodies. Whenever the latter are exposed to the process of saponification, glycerine is set free. There have been three sources of the article as found in commerce; one, the manufacture of lead plaster, when the glycerine generally held some of the lead in solution—another, the manufacture of soap, and the impurities contained in the filthy materials were very difficult to separate from the glycerine; and third, the manufacture of stearic acid candles. Mr. Geo. F. Wilson* of England proposes a method which furnishes an article, better and purer and cheaper than either of the three methods just mentioned. It was discovered that glycerine could be distilled, and with this new fact in its history, the new process for its manufacture was contrived. "Steam at a temperature of from 500° to 600° F. is introduced into a distillatory apparatus, containing a quantity of palm oil. The fatty acids take up their equivalents of water, and the glycerine takes up its equivalent; they then distill over together. In the receiver the condensed glycerine, from its higher specific gravity, sinks below the fat acids." This can be afterwards purified and concentrated, by redistillation and evaporation.

The profession is already aware of its application as a soothing and protecting agent in cases of chapped hands, or injuries resulting from exposure to the sun, how well adapted it is to all affections of the skin where it is necessary that this should be kept moist, and how serviceable it has been in the treatment of various diseases of the ear, as suggested by Wakely of London in 1849. Quite a number of new applications have been proposed lately. It had been applied as a dressing to wounds, with results that show it possessed of an antiseptic property, which makes it a most valuable agent in hospitals where the foul emanations from old ulcers can thus be measurably restrained. M. Demarquay† has been making a series of experiments with regard to its action in preserving organic matters from decay. Beef and mutton were immersed in glycerine and kept for 2

* Chemist, iii, 100.

† Journal de Chimie Medicale, ii, 169.

months without any perceptible modification. These experiments coincided with those of Wilson, who found that fish could be preserved in it without any alteration of color, and the preservation was just as perfect if they were cleansed and only wrapped in a cloth which had been saturated with glycerine. M. Demarquay further tried the effects glycerine would have been when injected into the arteries. On Nov. 19 the foot of a man who had died on the 13th was injected with glycerine. On the 21st of the following it presented a natural appearance; the articulations were flexible; the tissues had natural firmness. These experiments were repeated on different portions of the body with the same effect. Finally he injected two still-born infants with glycerine, through the umbilical cord, and up to the time of his communication the preservation was undoubted. The query now is, as to the length of time that this preservative action will endure. Should it be absolute, the value of glycerine as an agent for embalming purposes may be well imagined. Should it prove to be only an agent that is temporaily conservative, still we can employ it to very good purpose in the preservation of dead bodies for dissection. It has also been employed in the preservation of objects for microscopical examination.

But the possible applications of this substance are indeed quite numerous. Thus we can see the propriety of its employment in diseases of the mucous lining of the stomach, and as an injection in cases of dysentery when it might be made the menstruum for the administration of medicinal agents of various kinds, and by its direct soothing agency bring relief to inflammed parts. Again—as it is a solvent for both urea and phosphate of lime, is the recommendation that it be employed by injection into the bladder, for the purpose of effecting a solution of calculi, to be overlooked? There is no liquid that unites so many remarkable properties as glycerine; a solvent for a vast range of substances, presenting resistance to drying on exposure to the atmosphere, and freedom from irritation. These combined, constitute qualities, which must eventually develop hundreds of uses not dreamed of now. As an illustration of its solvent properties, its employment for the preparation of a solution of iodine and iodide of potassium may be mentioned. When any other solvent is employed, as it dries rapidly, the absorption of the iodine is speedily checked. This is not the case if glycerine be used as the solvent. The solution is prepared by dissolving one part of iodide of potassium in two of glycerine, and then pouring this liquid on one part of iodine. Any physician can recognize how

great a number of applications might be made of this iodized glycerine. The solution is used by spreading on the diseased parts, then covering with gutta percha paper or oiled silk to prevent the evaporation of the iodine as well as to increase perspiration from the part, which will insure a more rapid absorption. Dr. Richter, who proposed this application, says that it occasions some pain, "has a really heroic action in cases of lupus, a remarkable efficacy in nonvascular goitre, scrofulous ulcers, constitutional syphilitic ulcers; but it is doubtful in primitive chancres and eczema, and *nil* in psoriasis."

In addition to these cases, it is available *wherever* the physician wishes to employ iodine topically, and the advantages it possesses over the simple alcoholic tincture can be appreciated by every one knowing the properties of the two menstrua.

III. TOXICOLOGY.

The journals have been replete for the last 12 months with interesting monographs on the physiological and toxicological effects, and the chemical detection of strychnia. These have all resulted from the intense interest which the trial of William Palmer for the murder of John Parsons Cook, produced throughout the world; and they contain many novel and important facts in the history of this powerful and most important medicament. It is thought that a *resume* of the most valuable suggestions in these monographs would be useful to the profession, as they are spread on the pages of a number of journals, both chemical and medical, that are not always accessible to the student.

In the case of Palmer, it appears that he was the intimate confidential friend of Cook, and that the two were largely concerned in betting on the various races in England. The former had become largely indebted through his pursuits, and was obliged to raise money with the view of saving himself from imprisonment. "Cook had been slightly indisposed for four or five days, the indisposition consisting chiefly in attacks of nausea and occasional sickness, but without purging. On the 19th of November he had a fit, from which he recovered, and on the 20th, about midnight, he was seized with convulsions, and went off suddenly."* On an examination being made by Drs. Taylor and Rees, of the stomach and contents, and the contents of the viscera, which had been owing both to the imprudence of the

* Taylor on Poisoning by Strychnia, 7.

anatomist and supposed tampering of some unknown person, completely mixed together, indications of the presence of antimony were furnished, but no satisfactory proof of the presence of strychnia or any other alkaloid was obtained. The symptoms, however, exhibited in the two attacks of convulsions which the deceased had experienced, pointed to the administration of strychnia, and could be accounted for in *no other* way. The jury, notwithstanding then the nondetection of strychnia, found the prisoner guilty of the charge of having "feloniously, willfully and with malice aforethought, committed murder on the person of John Parsons Cook," and he was accordingly sentenced to be publicly executed; which was done on the 14th of June, 1856.

This case is interesting in a medico-legal point of view, as conviction was the result, although the supposed cause of death was not positively detected. The one link in the chain, necessary to have given the evidence the character of *positive* instead of circumstantial, that is the detection of the poison itself, was absent. There was a reliance on the evidence furnished by symptoms and by pathological means, in despite of the negative character of that which was given by the chemical analysis; and this reliance was so strong that the verdict of guilty was unanimously rendered by the jury. The defence strongly urged the fact that no poison had been detected, and therefore none had been employed. Now this position involves two suppositions; first, that poisons *always* can be detected when given to an animal for the purpose of producing death; and second, that their identity can be proven beyond possibility of cavil. The first supposition is not justified by the history of toxicology, since poisons have been again and again designedly given to animals, and experimenters of the highest ability have failed to detect them. It is true that the certainty of detecting what has been taken is becoming greater with the increase of knowledge of chemical manipulation, yet the fact nevertheless exists that some poisons, even with all our present knowledge, have eluded detection when taken into the animal system. Experiments have been made by the best chemists in England on this point, and failures have occasionally occurred. Dr. J. E. De Vrij* of Rotterdam failed in detecting strychnia even when mixed with urine intentionally after this fluid had been voided from the

† Chemist, iv, 406.

bladder. In two experiments on dogs, where a comparatively large quantity of strychnia had been employed to destroy their lives, the most minute chemical analysis failed to detect the presence. So clearly have the results of this chemist's experiments satisfied his mind, that he advances the following as his conclusions: "That if poisoning by strychnia has been chronic, and has resulted from a quantity not greater than just necessary to cause death, the cause of this death *cannot be proved*, either by the *post-mortem* examination of the body, or by a chemical investigation of the intestines; and that it appears to be highly probable that that part of the strychnia which acts mortally, is decomposed in the living body."

Now as to the second supposition, that poisons can be proven so as to forbid cavil, there can be no doubt, we think, provided care be taken to eliminate all probable error. We cannot admit that a chemist has the right to claim the mere appearance of a colored precipitate as positive evidence of the existence of a substance in any organic mixture, which substance he fails to separate in the shape of one of its definite compounds. We must have corroboration by all kinds of proof. But in the case of some of the elements, there are peculiar tests that point out their existence, simply from the fact that so far as our knowledge goes we are not acquainted with the same reaction, as produced by the given test, in the case of any other substance. The same thing is true with regard to a series of tests, of which neither one is satisfactory, yet taken together they constitute a series which our present knowledge of chemistry only recognizes as belonging to one substance. Mr. Carpenter has written an article on this subject in the Medico-Chirurgical Review for October, 1856, which carries out this idea still further, and shows how from the category of *contingent* proofs, which did not seem furnished by the chemical evidence in this case, but were largely supplied in the circumstantial evidence by the crown; how from such a series of circumstances, connected with the acts and motives of the criminal and the symptoms of the victim, a jury might be justified in coming to a positive and just verdict.

This case, tried by the most learned authorities in England, should make us wary as to positive determinations with reference to guilt or innocence, where chemistry has failed to detect the offending cause. The science has done much to reveal and clear up what was formerly dark in medico-legal investigations, but there is much yet to be done. For the former, all praise be given to faithful students and honest investigators, and on account

of the latter let us all "learn to labor and wait!" Let not chemistry be taunted with what she has *not* done, but rather be properly honored for what she *has done*. In an examination of the contents of viscera, she furnishes results that serve to fasten conviction on minds which have only had suspicion excited by the symptoms and post-mortem appearances of any particular case. Hence her aid and assistance are most important in a legal investigation, and will serve often to clear up doubt. We must not, however, learn to depend on her *alone*, and reject *good evidence* from *other quarters*, on points that she is unable to explain, although the greatest aid in toxicological examinations, yet not the only means of conducting such, or of arriving at correct results. The case of Palmer has been exceedingly valuable in teaching both jurists and chemists the value of *all kinds of testimony* in a case of this character.

Nine cases of poisoning by this agent have been collected by the Med. Chir. Review,* and sixteen by Mr. Taylor,† so that the subject of a proper antidote becomes an exceedingly important one. Dr. Pindell announced lard as an antidote, but it seems that, in some cases, where it was employed by Dr. Hammond, it hastened the action of the poison. De Vrij thinks that it retards (but does not neutralize) the mortal effects. Dr. Shaw reports cases, where a negro woman and child had been poisoned by eating a piece of dried beef which had been covered with strychnia, but when olive oil was administered freely to them it had the effect of producing vomiting and absolute relief from the poisoning symptoms. But the action of the oil cannot be considered as that of an antidote, since the emesis was really the curative agency in each case, as was proven by the fact that dogs who licked up the oil which was vomited were immediately seized with symptoms of strychnia poisoning, and died. Indeed all the cases on record, where any account of treatment is preserved, show that nothing has been of avail, except free, copious emesis. Camphor or conium may be used, or any other medicinal agent whose therapeutic action is found to be different from that of strychnia, but our main reliance must be now as ever in the use of an active emetic. No one can neglect this point in the treatment of a case of strychnia poisoning without being considered as highly culpable. If too much of the poison has not been absorbed, life *may be* saved by the administration of the emetic.

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* Medico-Chir. Review, xvii, 407.

† Taylor on Poisoning by Strychnine, 78.

An interesting monograph on the subject of strychnia as a tonic agent has been published by Prof. Stevenson Macadam* of Edinburgh. He groups together the reactions of strychnia with such liquid tests as afford peculiar precipitates, from which are selected those which are most characteristic.

I. Bichromate of potassa (or ferridcyanide of potassium, according to De Vrij,) and sulphuric acid producing a violent red coloration—at first blue, then violet red, and finally, after standing some time, becoming yellow. One-sixty-thousandth of a grain may be detected, if the liquid containing it is carefully evaporated to dryness, then moistened with an exceedingly small quantity of sulphuric acid, and a very small fragment of either of the first named tests be placed in this solution, and stirred about with a glass rod.

II. Perchloride of gold gives a citron yellow, and if there should be a quantity of organic matter present, a coffee color.

III. Chlorine in solution, a white precipitate which dissolves in ammonia and furnishes a colorless liquid. Sulphcyanide of potassium and corrosive sublimate give similar colored precipitates.

De Vrij states, what is still more important in a examination for this substance, that "the precipitate formed by bin-iodide of potassium is brownish red, and if dissolved in weak warm spirit, acidulated by sulphuric acid, beautiful crystals are formed of sulphate of iodo-strychnia, which polarize light. The precipitates formed by sulphcyanide of potassium and neutral chromate of potassa are both crystaline. The color of the former is white, and that of the latter yellow—the form of the crystals of the former is characteristic as observed under the microscope. Macadam relies, however, on the first named test, which was first proposed by Otto, and has received universal approval. But it is necessary to get rid of all organic matter in order to employ this reaction with any satisfactory results.

The mode of treatment of organic substances supposed to contain strychnia, employed by Macadam, was essentially that advised by Stas. Being cut up into very small pieces, they are treated with common rectified spirits acidulated with pure oxalic or tartaric acids, and allowed to macerate for 24 hours, being shaken from time to time. Filtering through muslin is then employed; and the solid substances are washed on the filter in

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* Journal de Chim. Med. ii, 707, and iii, 13.

order to remove any soluble matter they may possess. These washings are added to the filtrate, and the resulting mixture is boiled in order to regulate all albuminous substances present. The liquid is then filtered through fine paper, and its filtrate being mixed with pure and well washed animal black, is frequently shaken during 24 hours. At the end of this time it is filtered, and if there should be any strychnia present, it will be retained by the animal black, from which it can be recovered by the action of alcohol at a temperature near ebullition. The evaporation of this alcoholic tincture will furnish us the strychnia pure enough for testing. If not, it can be acted on by oxalic acid, animal black and alcohol again, and thus obtained perfectly pure.

Macadam asserts that he detected the alkaloid in the liver, lungs, kidneys and heart, a month after death, by this process. His conclusions differ somewhat from those of De Vrij's as to the detection of the poison in cases of chronic poisoning by this substance. He considers that such doses as have really shown but slight physiological effects are those which are most favorable for the chemist afterwards; and that in proportion as the physiological evidence diminishes as to the antecedent action of the poison, the surety of chemical detection increases. He only admits that the decomposition of the body of an animal might cause the destruction of strychnia it had contained, "but time could not efface more easily every trace of its presence than it could of the knife of an assassin."

While we are indebted to this experimenter for a careful series of experiments, we are not willing to admit that any one whose whole researches have been confined to the chemical examination of a few animals intentionally poisoned by strychnia, is justified in making statements such as the above, or deducing conclusions as regards the certainty of detecting the substance in the human body. We like chemical certainty, but we know that that is least reliable which vaunts loudest of its own reliability. An examination for strychnia is not one of the easiest of the problems in toxicological research. Its results are always clear and accurate, but that organic decompositions *may* occur so as to destroy the original constitution of strychnia, and arrange its particles under different forms as other bodies, in the present state of our knowledge on the subject, we have no right to deny.

In marked contrast with the spirit of Prof. Macadam's paper, is that pervading those which have been read by Mr. Jno. Hor-

sley* before the British Association. In some experiments performed on rats, he perfectly failed to detect any indications of strychnia, or indeed any bitterness in the liquors obtained in the analysis. Now this seems to support the theory advanced by Baron Liebig, that the alkaloids are always decomposed in order to produce their effect on the system. Mr. Horsley was not satisfied with such an explanation. The idea then occurred to him that a compound more or less insoluble, might be formed of the strychnia and animal organic matter, such as albumen. One experiment made by him with reference to this point is very interesting. He took the contents of an egg, and "after agitating them with a solution of strychnia containing one and a-half grain," they were boiled in a water bath. The effort was then made to abstract the strychnia by boiling alcohol from coagulum. The extract thus obtained being subjected to proper after treatment, furnished about one-sixth of the original quantity. The solid residue of the egg being afterwards digested in strong sulphuric acid, the liquor which it furnished gave *no* bitter taste, and but the slightest trace of strychnia could be detected. Mr. H. concludes that this proves "that the strychnia must either have been destroyed by combination with solid organic matter, so as to render it incapable of being extracted as pure strychnia, or else decomposed by the sulphuric acid in the attempt to extract it from albuminoid matter."

Mr. Horsley† suggests, also, that bleaching powder—the so-called hypochlorite of lime—may be employed in examinations of putrefying animal matter to get rid of the odor, and further that the addition of this substance insured a precipitate of the hypochlorite of strychnia, which was soluble in alcohol or glacial acetic acid. He found that with the putrid liquid from the liver of a dog, to which a solution of the hypochlorite of lime in excess was added, there was a precipitate, which when treated with alcohol acidulated with sulphuric acid, yielded a solution containing the sulphate of strychnia. This seems to be another happy suggestion that could be employed in some examinations, when Orfila's, Flandin's and Stas's processes had been used with no satisfactory results.

Considerable attention has been paid lately to the effects of tobacco on the nervous system. Siebert‡ shows that pernicious

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* Chemist, iii, 710.
† Chemist, iv, 2.
‡ The Chemist, iii, 246.

effects from smoking, when they do occur, result principally from the nicotine which is thus introduced into the system, producing indeed chronic poisoning. He has given several cases where the most singular forms of nervous affections were produced from smoking segars. "The neurosis takes the form of irritation of the spine, and produces, according to the point of the spinal marrow principally affected, different eccentric phenomena, such as bronchial spasms, a feeling of suffocation, palpitation of the heart, gastrodynia and vomiting, mesenteric neuralgia, &c." It seems that these symptoms follow the use of segars more than that of the pipe, in consequence of the tobacco which is used in the latter having been subjected to processes which really remove much of the nicotine. Segars of a fine and narcotic character are the most injurious—and these act also like opium, since a repetition of the habit brings relief from the symptoms produced by previous indulgence. The Athenæum* takes up the subject of the war against tobacco as waged at present in England, and shows very clearly that though the use of the article cannot be supported by any valied series of arguments, yet the arguments brought up *against* smoking are wholly inconclusive. These are, the fact that it is a poison, that it produces nervous diseases, and that it engenders cancer of the lip. To which, the fair answers may be brought: First. That tea and coffee are also poisonous when used in large quantities, and all food, if used in improper quantities; and we may indeed press any one of the natural causes of life till it becomes a source of disease. Second. Granted it does produce nervous diseases under certain circumstances, but are those who are constantly employed in its manufacture more liable to such diseases than others, since they should be if its constant effects are nervous derangements, and is not the greater number of nervous diseases to be found with the gentler sex, who do not use tobacco in any form? Third. As to cancer of the lip—this is but a development, in one place, of a disease that the profession are beginning to believe is general in its character, making its appearance in different places in accordance with peculiar irritations that may exist there. All the arguments, then, against its use are inconclusive, and they might be adduced against a number of articles of food. We repeat that the use of tobacco cannot be justified by any other arguments than that it is a luxury to those who have accustomed

* Anthenæum, 1857, 303.

themselves to it, but on the other hand, all the arguments brought forward by opponents to its use, are simply efficacious when directed against its *abuse*. Dr. Siebert found that the only treatment in cases of nervous derangement from smoking, was entire abstinence, and the employment of preparations of iron.

IV. HYGIENE.

One of the most important subjects claiming attention from the profession is necessarily the removal of all causes that vitiate the atmosphere, and thus engender disease. This involves the whole subject of disinfection, both as applied to the deodorization and destruction of noxious odors. Mr. Davy of Dublin has published* a tabular view of the relative deodorizing power of a number of substances, as applied to the destruction of a given amount (125 grains) of night soil, which exhibits the essential oils as possessed of high deodorizing properties, greatly above those of chloride of lime, one grain of either of the essential oils being equal in efficacy to 47 grains of the latter substance. The oils of lavender and peppermint are more efficacious than turpentine. The deodorizing effects of coal tar and creosote were found to be very high, and these were increased by their solution in water or vinegar. He also notices the effect of roasted coffee when exposed in places where offensive odors are generated, and thinks it however not very great, comparing only with that of alcohol, which latter substance he found especially efficacious by rinsing the mouth, in case nausea was produced from exposure to such odors.

Stenhouse† of St. Bartholomew's hospital London, has furnished an exceedingly valuable monograph on the subject of the use of vegetable charcoal for sanitary purposes. An abstract of the facts contained in this paper seems to be in place in this report.

It has been known for a long time that both vegetable and animal charcoal are possessed of the remarkable property of absorbing large quantities of vapors and gases; in the case of ammoniacal vapor, to an amount 90 times their own volume, and 55 times in the case of sulphuretted hydrogen. On this account charcoal, in one form or other, has been employed for years as a deodorizer, though it seems to have been first employed for this purpose by M. Löwitz, at St. Petersburg, between the years

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* Chemist, iv, 4.

† Stenhouse on Economic Applications of Vegetable Charcoal.

1785–91. The greatest number of experiments on the subject have however been made by M. Saussure, of France. These have been already communicated to the people at large, so that every one is more or less acquainted with the properties of charcoal as a deodorizer. But at the same time the erroneous idea that it is an antiseptic has invaded every text-book on chemistry, and has in this way obtained so full a hold on the faith of the public, that it seems almost impossible to overthrow it. It really masks the progress of decay and putrefaction. Ordinarily, we recognize the latter process by the evolution of offensive effluvia, and estimate its advance by the increase of the latter. The nose furnishes the test which we apply for the detection of putrescence in animal organic matter. But charcoal we learn is a deodorizer. Have we the right, merely from the fact that it decomposes odors, to conclude it will also remove the process which engenders those smells; in fact, remove their cause? Would it be good logic to conclude always because a certain thing counteracts baneful effects, therefore it destroys their causes, and they will necessarily cease? No! this is not the kind of reasoning that is conclusive. Experiment must be brought to bear as to the particular effects of charcoal on the process of putrefaction itself. Has it ever checked this process, or prevented it altogether?

Mr. Trumbull, of Glasgow, imbedded "the bodies of two dogs in a wooden box, on a layer of charcoal powder of a few inches in depth, and covered them over with a quantity of the same material. Though the box was quite open, and kept in his laboratory, no effluvia was ever perceptible; and, on examining the bodies of the animals at the end of six months, they were found to be in a very advanced state of decay." Mr. Trumbull has also found that on mixing up a quantity of charcoal powder "with some excellent manure made by boiling down the flesh and bones of horses into a pulp, with oil of vitriol," that the mixture, after some months, had diminished in weight and become deteriorated in value.

These experiments, which have also been repeated both in England and this country with the same effect, lead us then to a conclusion as to the preservative properties of charcoal, different from that given in our text-books. It is not an *antiseptic*, but it really hastens the decay of all animal substances which are imbedded in it, masking, however, the process by removing those odors that we commonly consider as characteristic of putrefaction.

How shall we explain, then, the fact that it hastens putrefaction, and yet destroys the odorous results? In examining the charcoal powder which had been in contact with the bodies of the dogs in Mr. Trumbull's experiments, Mr. Turner found that "it contained comparatively little ammonia, not a trace of sulpuretted hydrogen, but very appreciable quantities of nitric and sulphuric acids, with acid phosphate of lime." There were comparatively no indications of nitrogenous material present in the charcoal. Now, Stenhouse shows that putrefaction is, as a general thing, nothing more than a species of oxidation. The odorous substances it gives off in gaseous form are secondary products, which, if brought into contact with oxidizing substances, such as sulphurous, nitrous and hypo-nitrous acid gases, are always oxidized and converted into inodorous compounds. Charcoal may act, as these substances do, simply from the fact that it contains a large amount of oxygen condensed within its pores. It is capable of absorbing from nine to ten times its volume of this gas, and this does not prevent it absorbing large quantities of the gaseous products of putrefaction; nay, it rather facilitates their evolution, as the oxygen rapidly oxidizes them and resolves them into simpler combinations, forming carbonic acid, water and nitric and sulphuric acids out of the hydro-carbons, ammonia and sulphuretted hydrogen which are given off. This oxidation or slow combustion cannot be detected by odor, and can only be infallibly recognized by the loss of weight sustained by the animal substance, or the application of chemical tests to the results of the process which are commingled with the charcoal. Stenhouse concludes that it is "on its absorbing and oxidizing power that the great efficiency of charcoal as a deodorizing and disinfecting agent depends."

Now, in the way of the practical application of these facts, we may learn the utility of exposing pans containing vegetable charcoal, wherever noxious odors are given off, as in the wards of hospitals and in sick rooms, with the expectation that the effluvia which arise from the bodies of the sick, and which, if not producing contagious miasmata, still vitiate the atmosphere, and enfeeble the constitutions of those necessitated to breathe it continually; also how valuable an agent coal is for admixture with night soil, bodies of animals in a state of putrescence and animal substances in general which are undergoing decomposition. Its admixture with the earth used to fill up graves would also diminish the exhalations that are always given off from well-filled grave-yards.

Stenhouse has, however, made a suggestion of its use as a filter for the air which may contain putrid emanations of so great dilution that the nose could not detect their presence, and which would be intercepted by their passage through a layer of charcoal. "The charcoal air-filter consists of a thin layer of charcoal powder interposed between two sheets of wire gauze, and can be readily applied to buildings, to ships, to the gulley-holes of sewers, to respirators, and to various other purposes." They have been tried in London in ventilation of public buildings where the air had to be taken from the streets, where nuisances of the most offensive character existed, and yet when it had been passed through the charcoal it proved to be unobjectionable to the most delicate olfactories. The charcoal layer employed in these is about an inch and a-half in thickness, and the fragments are about the size of a pea. It is well always to make it red hot before using it, which can be done by exposing it to the action of heat in a covered iron pot.

The charcoal filter might be employed with advantage in miasmatic regions, where the principal fear is with reference to the admission of air during the night into sleeping apartments. Mr. Stenhouse has also contrived respirators which fit over the mouth and nose, consisting of two sheets of silvered wire gauze, between which is a layer about a quarter of an inch thick, of coarsely powdered charcoal. These may prove useful in many circumstances that will suggest themselves to the minds of the faculty, particularly in employments where men are exposed to putrid odors, such as are given off from sinks, sewers and cess-pools, to men employed in time of action, on board ship, at the batteries, and to persons traveling through regions of country where disease almost continually rages in consequence of exhalations evolved from putrefying organic substances.

Since the first announcement of these new views with regard to vegetable charcoal, Stenhouse has offered an improvement,* which, without increasing the expense of the article very much, is likely to be of immense benefit. He proposes as the property possessed by charcoal, of absorbing oxygen and retaining it in its pores, is not as great as its power of absorbing other gases, hence its absorbent power being greater than its oxidating power, that if some other substance could be added to it which would act as an oxidizer without injuring the absorbing power, the efficacy of

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* Stenhouse on Charcoal, Journal de Chim. Med. ii, 309.

the charcoal would be greatly increased. He succeeded in accomplishing this by the addition of minutely divided platinum, which is itself possessed of enormous oxidating power. With such a combination then we are furnished with an excellent deodorizer and disinfectant.

The process of platinizing charcoal consists in boiling it "either in coarse powder, or in large pieces, in a solution of bichloride of platinum, and when the charcoal has become thoroughly impregnated with the platinum, requiring from ten to fifteen minutes, heat it to redness in a close vessel." Two per cent. of platinum he has found most advantageous. This combination is of course only recommended when charcoal is intended to be used as respirators.

The fecal discharges of patients at our hospitals, jails, almshouses and other public institutions where a large number of persons are collected together, often become so fetid, during the progress of an endemic, that doubtless much disease is propagated by this cause of the vitiation of the atmosphere. Under such circumstances it is important that some agent should be at hand which can at once destroy the odor in consequence of the strong affinity it may have for one or other of the odorous compounds that are thrown off into the atmosphere. Nothing can be found better adapted for this purpose than chloride of zinc, which should be used in solution. Where the discharges are very fetid, as in cases of typhous and similar affections, the solution should be placed in the vessel before the patient uses it for the purposes of defecation. The chloride may be most economically made by taking commercial hydrochloric acid and adding zinc until a saturated solution is formed. This then should be diluted with an equal volume of water.

Where we have collections of night soil, or the putrescent contents of sewers and cess-pools, the most convenient agent to employ for their deodorization is a solution of the sulphate of iron. The researches of the younger Chevallier have shown that from 20 to 25 kilogrammes (from 50 to 63 pounds) of this salt will perfectly deodorize 10 cubic meters, that is about 11 cubic feet of night soil. Ordinarily not as much as this will be required, but for perfect deodorization the amount mentioned will be needed. When such a solution is added there is immediate action, and the odor possessed by the fecal matter is simply that which is proper to the vegetable matter that they may retain. There is an advantage in employing this salt, since the fecal matters, being thus deprived of their odor, can be used on our fields, where

their invigorating action will soon repay all the expense incurred. When it is recollected that the ammonia, unless seized in this way by sulphuric acid, and as it were, fixed, escapes into the atmosphere, thus depriving the fecal material of its most active agent as a manure, it will be seen that economy should demand the use of sulphate of iron as much as considerations of public hygiene.

OBSTETRICS.

1. *On the death of Charlotte Bronté.* Communicated for the Boston Medical and Surgical Journal. By Dr. CHANNING, of Boston.—The death of Charlotte Bronté is the saddest fact in a life whose key-note was sorrow, and whose melancholy music filled the very atmosphere in which she lived, and moved, and had her being. She may almost be said to have been baptized in the dark waters of death. Her mother died when she was about five years of age, and, in quick succession, four sisters and her only brother.

It was not a common family, that of Charlotte Bronté. Two of her sisters died young, but lived long enough to indicate that they would have left their mark on their times. The two elder sisters gave the same evidence of their power in written works. Her brother had large intellectual endowment and culture. but worse than wasted all that might have greatly distinguished him. We do not design in this notice of one whose life has been so admirably written by Mrs. Gaskill. and which all readers have read, to review this work. And yet it may not be out of place to say that it is a record of a remarkable person, who in the midst and pressure of severe trial, never failed in duty to herself, and to all to whose well-being she could in any way contribute. She was small, delicate in person—apparently incapable of effort. Yet she meets, or makes occasion for intellectual, moral and physical action, which in its detail astonishes us by its rarity, and still more by its success. She writes with startling strength —brings before you men and women, her own creations, and reveals what is in them, both in their word or work, in language and act which leaves little ground for question. She goes to a foreign country, of different language from her own—goes alone, by the guidance of the same instinct which always accompanies a true object, and accomplishes all she attempts. She writes, and while her manuscripts are gathering dust on the publisher's

shelves, she writes on, nothing daunted, and at length comes forth as an author, and declares, anonymously, her gigantic power. "Who wrote Jane Eyre?" is the question. "Not a man," says one, "for a man would not"—"Not a woman," says another, "for a woman could not."

Pardon us that we have for a moment deviated from our purpose—to speak of the death of Charlotte Bronté. We could not but say a word of a life so sad as was hers, and for the reason that in an event which was to her an unmixed felicity, she found death. Sadly, in deep sadness, do we ask, was it not a fitting coronation of such a genius, and such a life?

Charlotte Bronté married late in life. Her father opposed her marriage, and the daughter could not marry the man she so deeply loved, as her marriage must separate her from her father, now more than eighty years of age, and with no living creature of his house, but her, left. At last, her father's consent is given and she is married. This was an event in Haworth. Every body came to the wedding. Charlotte had been the friend of all the poor. She would traverse, in snow and rain the wild moors of her home, to carry something for the sick child or parent, or to do something for them. Every body knew her, and every body loved her. Says Mrs. Gaskill, "many old and humble friends were there, seeing her look like a snow-drop." Her bridal dress, after a few months, became her shroud.

She became pregnant, and soon after experienced the ordinary symptoms of that state, but which rapidly became morbidly severe. Nausea, vomiting and faintness; and fainting, at first frequent, became, at length, constant. The sight of food was sufficient to produce them all in most distressing forms. Said one, "a wren would have starved on what she ate during those last six weeks." A physician was called. "He came, and assigned a natural cause for her miserable indisposition; a little patience, and all would go right."

From the record, nothing more seems to have been said or done in this case. We copy the following from Mrs. Gaskill, because of its professional interest, and as showing something of the sufferer's state in the last moments of her life.

"Long days and longer nights went by; still the same relentless nausea and faintness, and still borne on in patient trust. About the third week in March (it was early in the new year, 1855, that the symptoms first appeared,) there was a change; a low, wandering delirium came on; and in it, she begged constantly for food, and even for stimulants. She swallowed eagerly

now; but it was too late. Wakening, for an instant, from this stupor of intelligence, she saw her husband's woe-worn face, and caught the sound of some murmured words of prayer that God would spare her. 'Oh!' she whispered forth, 'I am not going to die, am I? He will not separate us, we have been so happy.'"

She died Saturday morning, March 31st.

It is of the professional relations of our subject—the treatment of the signs of pregnancy when morbidly aggravated, that we will now speak. Was the *cause*, the *motive cause* of those symptoms which produced death in Charlotte Brontë removed? This question is of great interest. Nearly half a century ago, it was our privilege to attend the midwifery lectures of Dr. John Haighton, in London; and a better lecturer than Haighton is not in our memory. He discussed this question of removing the *cause* of those symptoms, and showed conclusively that in cases in which other means had failed, and the worst consequences were to be looked for, it was the duty of the physician to remove the cause, viz: *to remove the fœtus from the womb.* Haighton related his experience, and dwelt on the opposition he had met with in consultations, to such measures as he knew could alone save life. More recently we have spoken with eminent men abroad on this subject, and have met with objections to the practice; or, when it has been allowed to be proper, it has been after so much evil has been done that there has hardly been any reason to look for success from it.

We have felt it our duty to resort to the measure under consideration, and in every case recovery has been rapid and complete. We have known death to happen when the measure has been rejected by patient or friends, and where all other means have been faithfully used. In one case it was clear that death must occur if things remained as they were, but in which the mother of the patient would not consent to the measure, unless the physicians who advised it would in the first place guarantee its success. The attending physician would not do this; and soon after our consultation we heard of the patient's death.

In another instance, the lady lived in a distant state. She was reduced by nausea and vomiting to excessive weakness, and absolutely could keep nothing on her stomach. It was between the second and third month of pregnancy. The fœtus was removed, and in twenty-four hours after, we found her heartily eating solid food, and she was soon well. The operation was performed on the same patient a second time, under the same circumstances, and with the same result. Let it be

remembered that this practice was not attempted until full trial had been made of the most approved methods of treatment, and after the best evidence that the disease was rapidly increasing. In another lady, it was not until convulsive movements had occurred in the universal exhaustion, that the measure was adopted. This patient recovered, and this was a second trial of it in the same patient.

We dwell on these cases, because a grave moral question is involved in our subject; and to say that it is only in those cases in which life is clearly in jeopardy, that any physician who deserves the name, would for a moment entertain the question we are considering. It is then as a *remedy;* and only to be used under what we believe are really desperate circumstances.

Whether the cause was removed in Charlotte Bronté's case, or whether she died of pregnancy, we know not. We know not what was the limit of that "little patience, when all would go right." But as the disease continued unrelieved till death, may it not be asked if the *cause* of that disease did not remain undisturbed till it became the cause of death. The question is put, because in no like case which has come under our care, however unpromising, has death occurred after the removal of the contents of the womb.

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2. *A Report on Diseases of the Cervix Uteri.* By JOSEPH A. EVE, M.D., Professor of Obstetrics and Diseases of Women and Children, in the Medical College of Georgia. (Read before the Medical Society of the State of Georgia, at the Annual meeting in Augusta, April, 1857, and ordered to be printed.)—The subject proposed by the Society for a Report—"THE DISEASES OF THE CERVIX UTERI," in its unlimited and widest sense—is indeed extensive, admitting of numerous divisions and subdivisions, comprehending a large number and variety of structural lesions, simple and malignant, as well as displacements, or mal-positions, such as, descensus, prolapsus, procidentia, retroversion, ante-version, latero-version, retro-flexion, and anteflexion: it also properly comprises what are generally styled functional affections, amenorrhœa, menorrhagia, and leucorrhœa, inasmuch as they often depend upon, or result from a morbid condition of the cervical portion of the uterus, and are most rationally and successfully treated, by remedies addressed directly to that part. These are indeed so numerous, that to do justice to them all, would require to write a volume, which is certainly not the design, or desire of the Society, and for which we have neither time nor disposition at present.

Besides inflammation and ulceration; simple, syphilitic and cancerous, the cervix may be the seat of various kinds of tumor, mucous, cellular, fibrous, or malignant, increscent or excrescent, pediculated or sessile.

As we must restrict ourselves to narrow limits, and in accordance with what we believe to be the wishes and views of the Society, our report will be confined to simple inflammation and ulceration, which have of late years commanded so large a share of the attention of the profession, and have been the subject of so much sharp and often bitter controversy. Other affections will only be referred to incidentally, as they have a relation to, or bearing on these.

In discussing these subjects authors differ principally on three points—the frequency of their occurrence, their pathological importance, and the most appropriate and successful treatment.

With respect to the first—their frequency—the difference is more apparent than real; depending, in the first place, in considering ulceration to be the important and essential condition, and then in disputing about the meaning of the term; whereas inflammation is the essential affection, and ulceration only a consequence or result of compratively minor importance—the effects, local and general, depend on the existence of inflammation, and are very little, if at all, modified by the presence of an ulcer. Too much stress has, by some authors, been laid on the importance of ulceration.

According to my own observation, the frequency of ulceration depends on what it is considered to consist of—if epithelial abrasion constitutes ulceration, it occurs in a large proportion of cases of inflammation, while ulcers of much depth are rare. I have kept such a registry of cases as to enable me to determine the relative proportion of cases with or without ulceration—nor do I consider it an important point. Sometimes, when there is no external ulcer, not even superficial abrasion, it is quite possible a concealed ulcer may exist in the cervical canal, not discoverable even by the speculum of the os uteri, an ingenious instrument, invented by Mr. Tiemann of New York, for the purpose of exploring the interior of that canal, and by which it is exposed to view as thoroughly as perhaps is practicable; but I cannot say that I have found it as satisfactory in its application as some of his other valuable inventions.

According to my own experience, inflammation of the cervix, with or without ulceration, is of very frequent occurrence: and I fearlessly appeal to every candid observer who is in the habit

of employing the speculum, in the investigation of uterine diseases, for confirmation of this opinion.

If we would refer to the most reliable and accurate statistical tables, made by those who have enjoyed the very best opportunities for making them, we find that simple ulceration is of very frequent occurrence, including all degrees, from slight epithelial abrasion, to deep and extensive erosion, or loss of substance, in those subjects who have presented symptoms of uterine disease.

By reference to the tables of Dr. Charles West, of St. Bartholomew's Hospital, London—than whom there could be no more candid observer—it appears that ulceration is of very frequent occurrence, not only in those who have had previous symptoms of uterine disease, but in those who have died of other diseases, without any particular indication of uterine affection.

In examination with the speculum of 268 patients at the Middlesex and St. Bartholomew's Hospital, Dr. West found ulceration of some degree in 125; of the remaining 143, 110 presented some affection of the cervix or body, some of which were, most probably, if not certainly, the consequences or sequelæ of pre-existing inflammation, "In only 29 the uterus was apparently healthy." The 268 patients all had symptoms of uterine disease sufficient to justify a specular examination; they would not otherwise have been subjected to it. As Dr. West's mind appears to be fixed on ulceration, is it not highly probable that he may have overlooked or ignored some of the lighter cases of simple inflammation?—cases which, neverthless, in susceptible individuals, might have produced the symptoms which led to the examination. Might he not also have failed to discover some affections of the body of the uterus, which, when limited, are often not much more perceptible to touch than to sight? Some cases, indeed, might have been rheumatic or neuralgic, exhibiting no signs of inflammation or any of its sequelæ.

In another table Dr. West found, on examining the bodies of 62 women who had died of other diseases, without uterine disease being known or suspected, that in 29 there was uterine disease, and in 17 ulceration, although 19 were supposed to be virgins.

Of 300 patients, with symptoms of uterine disease, examined by Dr. James H. Bennett, at the Western General Dispensary, there was ulceration of some grade in 222—about three-fourths.

The testimony of Dr. Tyler Smith and Dr. Rigby strongly corroborates the statement of the frequency of ulceration of the cervix. Indeed, we believe on this point, there is comparatively little difference of opinion among the principal authors who have

recently written on the subject. Dr. Robert Lee, however professes scarcely ever to have seen inflammation or ulceration of the cervix, specific and malignant ulcers excepted. We can only account for Dr. Lee's singular assertion, in one of three ways—either he has not employed the speculum for investigating such diseases, or he has a peculiar definition for inflammation and ulceration, or else he is willfully blind and will not see.

Dr. Meigs asserts that ulcers of the cervix are not frequent; but he evidently refers to ulcers with decided loss of substance, which accords with my own experience,—indeed it is highly probable that ulceration, deep and extensive, would be much oftener found in the class of patients, from whom Dr. West's, Dr. Bennett's, and Dr. Tyler Smith's tables were made up—paupers in Hospital and Dispensary practice—than in such patients as Dr. Meigs, myself, and others, in private practice, are generally called on to treat—ladies in respectable life and comfortable circumstances, who generally apply for assistance sooner, and in whom inflammation of the cervix is very much moderated in its intensity, and kept from producing ulceration by frequent ablutions, which are very much neglected among the lower classes.

Dr. West's tables—than which nothing could be a more fair and candid statement of facts observed—would alone without corroborating testimony, be sufficient proof of the frequency of the ulceration of the cervix. But when Dr. West comes to reason from the facts stated, his conclusions are far from what would appear to me, rational and legitimate inductions from the premises.

There is, I believe, great unanimity of opinion in the profession with reference to the frequency of inflammation and ulceration of the cervix, but in reference to the second and third points—their pathological importance and therapeutical indications—authors differ very much. To a calm and dispassionate difference of opinion, there can can be no objection; but unfortunately for the cause of science and humanity, passion too often usurps the place of reason, and villification is substituted for argument.

Dr. West contends that the very frequency of the occurrence of inflammatory importance, rarely requiring special treatment; and further, he regards the fact that, in 62 women who had died of other diseases, uterine disease was found in 29, a strong argument in favor of this opinion; but how much more rational is the inference of Dr. Bennett, who says. "I, on the contrary, see in it a positive proof of what I have often stated, viz., that the existence, unrecognized and untreated of a large amount of

uterine disease in the female population, is an indirect cause of death. Inflammatory diseases of the uterus and of its neck are essentially debilitating affections, through their reactions on the functions of digestion and nutrition. When, therefore, as so generally occurs, they are *not* treated, they gradually induce a state of debility and anæmia, and of deficient vital energy, which may render the female unable to resist the attack of intercurrent disease, to which she becomes an easy prey. Such at least is my interpretation of this pathological revelation."

How often is the failure to recognize uterine disease due to the ignorance or carelessness of the practitioner?—the sufferings and death of the patient never having been traced to the proper cause, or the influence that uterine disease may have exercised, in rendering other diseases more serious and often mortal, overlooked entirely, or not properly appreciated?

Is it not probable, that many patients die of cardiac diseases, without true pathology ever having been suspected? but are they of less pathological importance on that account?

If time would allow, it would be an agreeable task for your reporter, and might be interesting to the Society, to examine and comment on the opinions of those who deny the pathological importance of inflammation and ulceration of the cervix; but this would be to transcend our prescribed limits.

Without invoking the corroborative support of those who entertain views similar to our own, we do not hesitate to express the opinion, based upon our own observation and experience, that inflammation of the cervix and its sequelæ are of great pathological importance, whether considered locally or generally, in their bearing on the uterus itself, in its difierent conditions, unimpregnated, pregnant and parturient; or in their effects on the general system, exciting, by nervous communication, disease in other and often distant organs.

It must be admitted that inflammation, and even ulceration, sometimes exist for a long time, without materially affecting the general health, or in a great degree deranging the functions of the uterus; for we meet with cases in which menstruation continues with surprising regularity, as respects time, quantity, and freedom from pain, without causing sterility, or inducing abortion, and in which the general system does not appear to be cognizant of the local suffering, the disease only evinced by symptoms referrible to the uterus itself; but these are exceptional cases. In a large majority of cases, menstruation is deranged, either as respects regularity of recurrence, in being deficient, or excessive, or being attended with pain.

Scanty menstruation, or an entire suppression, is frequently attendant on long standing cases of inflammation of the cervix—often persisting after the inflammation has been subdued. It is more difficult to account for amenorrhœa than menorrhagia consequent on inflammation and ulceration of the cervix; it may, perhaps, depend on extension of disease to the body of the uterus, or on involvement of, or co-incident disease in the ovaria; or it may be a consequence of the impairment of general health, consequent on the cervical disease.

Nothing could be more reasonable than to expect that the presence of inflammation would increase the normal hyperæmia, attendant on ovulation, to a morbid degree, requiring for its relief a correspondingly greater amount of effusion which the presence of an ulcer, superficial or deep-seated, would render freer and more protected, sometimes almost constant; it is now, I believe, generally conceded, that the most excessive and obstinate cases of menorrhagia are connected with, or dependent on, inflammation or ulceration of the cervix, and only to be certainly cured by local applications to that part.

It is so easy now to conceive how inflammation, ulceration, hypertrophy, induration, and displacement, may render menstruation difficult and painful, that any explanation would be superfluous.

Notwithstanding Dr. Tyler Smith's learned labors, and very scientific and elaborate treatise, it is impossible, on mature reflection, to regard leucorrhœa, in at least a large number of cases, as anything more than a symptom and effect of inflammation of the mucous membrane of the cervical canal and Nabothian glands. Leucorrhœa may proceed from the cavity of the body of the uterus, or from the vagina, as well as from the cervix; but, as Dr. Rigby remarks, it would just be as rational and proper to call expectoration a disease.

The various mal-positions, whether in reference to the pelvis, or the different parts to each other, as in retro-flexion, etc., are generally consequent on inflammation, and are most frequently corrected when the inflammation is removed; such, at least, has been the result of our own observation and experience: inflammation and displacement are generally found to exist and disappear together.

Of late years, pessaries are seldom found necessary, although I am not prepared to subscribe fully to Dr. Bennett's theory of the almost universal causation of displacement by inflammation, or to agree with him in repudiating the use of pessaries. His

views, in the main correct, are I believe too exclusive. Cases of prolapsus are occasionally found unaccompanied with inflammation, although it may have preceeded and subsided spontaneously; but sometimes though rarely, after inflammation has been subdued, the displacement continues and produces distressing symptoms, which require for their relief artificial support.

Inflammation of the cervix generally causes or predisposes to abortion or premature delivery.

Some women, it is true, are so susceptible that they will conceive, although inflammation, ulceration, or profuse leucorrhœa may be present; they generally, however, have repeated abortions, and if they are fortunate enough to go to full term, they usually suffer very much during pregnancy and parturition, and often subsequently.

But generally such patients fail to conceive, or conceiving, are liable to frequent abortions, usually at the same period of gestation, by which the general health is still further impaired, and often totally broken down; this is the pathology and explanation of what is termed a habit of aborting—habit being assigned as the cause, than which nothing could be more unphilosophical. After the cervical inflammation has been subdued, these patients, if sterile, generally become fruitful; or if addicted to abortion, pass safely through gestation.

These cases, which were formally the annoyance and reproach of physicians, are now often most satisfactorily and successfully managed by substituting the surgical for the medical treatment of inflammation and ulceration of the cervix.

The following case illustrates this and several other important results from this mode of practice, so strongly, that its introduction here may not be deemed inappropriate:

Sarah, a mulatto woman, about 35 years of age—the property of Mr. L. Hopkins, of this county—for several years past had had repeated abortions or premature labors, attended with frequent profuse hemorrhages; she was also subject to menorrhagia and leucorrhœa between her pregnancies. Specular examination revealed inflammation and superficial ulceration of the cervix.

Treatment by cauterization with nitrate of silver and astringent vaginal injections was commenced, in January, 1855; but as she proved to be pregnant it was discontinued the same month, from the mistaken apprehension that it might hasten miscarriage, which was threatened. After repeated dangerous hemorrhages, she miscarried—the fœtus survived a short time. After her convalescence, I advised cauterization to be commenced and continued,

notwithstanding pregnancy might again occur, believing that, so far from endangering gestation, it would be the most likely means to prevent another miscarriage. She had no recurrence of menorrhagia; her general health and strength improved; in a short time, however, she ceased to menstruate, which surprised her very much, for she believed it impossible that she could be pregnant, as she had experienced none of the distressing affections usually attendant on pregnancy, from which she had always before suffered very much; nor could she be convinced, until strong fœtal movements left no room for doubt. She enjoyed excellent health until quite near the end of gestation, when she accidentally fell and struck her abdomen against some hard body, after which she suffered considerably from false pains, but had no hemorrhage. At full term she had a natural and comparatively easy labor: her child which appeared to have sustained an injury, at the time of the fall, was very puny and weak, breathed promptly, but did not survive long. The feeble health and subsequent death of the child were unquestionably attributable to the accident. This woman had a favorable convalescence, and has since enjoyed good health.

Treatment was recommenced November 14th, 1855, and continued, but with great irregularity, (in consequence of living in the country,) until the 8th of July, 1856, during which the cervix was cauterized nine times, in about seven months—nearly a month on an average intervening between each cauterization. Could the treatment have been pursued with regularity at proper intervals, it is probable that a third, or perhaps a fourth of the time, and fewer applications, would have sufficed. August the 9th, specular examination shewed the cervix free from every vestige of disease.

In this case, besides the removal of every trace of inflammation, the menorrhagia and leucorrhœa ceased—the predisposition to abortion was corrected—pregnancy divested of its usual annoyances, and labor itself rendered more easy and natural.

Many of the lighter hemorrhages, that occur during gestation, and after parturition, are doubtless referrible to inflammation and ulceration of the cervix. I believe, also, that some diseases of pregnancy, as excessive vomiting, cardialgia, etc., are often only symptomatic affections, depending on, or greatly aggravated by inflammation of the cervix. A valuable article on this subject appeared in a recent journal. The author gives a number of interesting cases, in which the severe sufferings of the patients, during pregnancy, were fairly attributable to disease of the cervix,

and promptly relieved by remedies addressed to that part. Dr. Green of Macon, in his excellent treatise on inflammation and ulceration of the cervix, says "inflammatory disease of the cervix has a powerful effect in aggravating the nausea and other distresses of pregnancy." It is well known, that when the uterus has become incarcerated in the hollow of the sacrum from retroversion during pregnancy, uncontrollable vomiting has been produced, which has been as promptly relieved by replacement. It has also been satisfactorily demonstrated that congestion, inflammation, and even ulceration of the os and cervix, may sometimes exist during gestation, without any important reaction on the general system; but it is equally certain, that in some cases distressing consequences result.

I have no doubt that parturition is sometimes rendered more painful and protracted, after-pains more tormenting, and convalescence from labor far less rapid and favorable.

The influence on the general health, as already remarked, is very different in different cases: in some, it becomes soon and seriously affected; in others, very slowly and slightly. It may be that in the former, the body becomes more or less involved by an extension of inflammation from the cervix, while in the latter, the disease is confined to the cervix.

It is reasonable to suppose this would be the result, from the fact that the body is principally supplied by nerves from the sypathetic, and the neck from the cerebro-spinal system; in consequence of which distribution, the body is more closely associated with other organs, and exercises more influence over them, both in health and disease: the neck is said by some authors, to be more sensitive, but this is, to say the least, extremely doubtful; it is indeed contrary to the observation of those who have much experience in making examinations of, and applications to, the body and cervix.

Although I may differ from some who have enjoyed superior opportunities for observation, and have done much for the improvement of uterine pathology, I cannot subscribe to the opinion that inflammation of the cervix rarely extends to the body: I believe it frequently does; and it is then that the general system becomes most affected; but by this I do not mean to express the opinion, that the general system never suffers except when the body becomes involved. There can, however, be no doubt but that the cervical portion is most disposed to become diseased, most exposed to morbific influences, and does most frequently become affected first, and that such affection often continues a long time, without extending to, or involving the body.

The state of the general system is, most frequently, that of debility or anæmia, most probably resulting from the deranged state of the digestive organs, and defective innervation very frequently attendant on uterine disease, or perhaps in some cases from the profuse menorrhagia or leucorrhœa present.

The nervous system very often becomes materially involved, as evinced in the developement of various nervous affections, such as the different forms of hysteria, chorea, and eventually epilepsy.

My experience has been, that while in their incipiency or in their early stages, especially when only hysterical phenomena are present, nervous affections dependent on inflammation of the cervix will promptly and permanently disappear, after the primary disease has been subdued by appropriate treatment; but if neglected long, they will continue and resist all remedies, however judiciously and perseveringly employed, although every trace of uterine inflammation has been permanently removed.

Cases might be adduced, in proof of the happy results of prompt treatment, and the disastrous consequences of delay. Unfortunately observation much more frequently records the latter than the former. Medical treatment alone is generally relied on until it is too late for local and special to avail. One instance of each may suffice for illustration:

In the spring of 1854, Miss ——, a very amiable and interesting young lady, fifteen years of age, who had been subject for about a year, at each menstrual period, to most distressing paroxysms of hysteria, attended with convulsions and temporary mental derangement, was brought to this city for medical treatment.

As she had been already subjected to very active and persevering medical treatment by an intelligent and skilful physician, without the least amelioration in her condition, it seemed perfectly useless to repeat the same, especially as the symptoms so plainly indicated uterine disease.

A careful digital and then a very cautious specular examination was made by means of Whitehead's small bivalve speculum, which is well adapted for making examinations in cases of virgins. As considerable inflammation and engorgement of the cervix were discovered, the solid nitrate of silver, by means of the speculum forceps was applied directly to that part, and a blister directed to be placed over the sacral region. The following pills were also prescribed, one to be taken three times a day:

℞. Proto-Iodid. Hydrag. . xxiv. grs.
Ext. Hyosciami. . . lxxij. "
Iron by Hydrogen . . ʒiss. Make 36 pills.

After these pills had been taken for about a fortnight, one grain of iodide of silver was substituted for the portion of proto-iodide of mercury in each pill, for fear of salivation. As it was so extremely unpleasant to subject so young a female to the repeated use of the speculum, after the nature of the case had been determined and one application made of the solid nitrate, I determined, for a while at least, to try the solution, which was administered with a glass syringe by an intelligent and excellent lady who attended on her with truly maternal kindness and tenderness. The solution was used of different degrees of strength, from one to three drachms to the pint of water. This patient never had a paroxysm after the treatment was commenced—rapidly regained her general health—in three months returned home perfectly well—has never had any recurrence, but has since married, and is, I have been informed, in a fair way to become a mother.

The extreme severity of this case, its long persistence and the length of time she had been previously treated by a respectable physician, alone justified so early a recourse to an instrumental or even a manual examination, which otherwise would have been deferred until after the failure of other plans of treatment; her rapid restoration to perfect health rendered a repetition unnecessary.

Another case occurs which presents a very different picture:—Some fifteen or twenty years ago, Mrs. —— labored under prolapsus with inflammation of the cervix; treatment, though advised, was neglected for many years, until her nervous system became very seriously affected—at first she had very slight nervous seizures with very transient abolition of mind and very slight spasmodic movements, only sufficient to make her stop for a moment when walking, to cease conversing, or to suspend sewing or any other occupation for an instant—such were these fits in their incipiency, but they gradually became more intense, amounting to decided epileptic convulsions. When her family became alarmed, her case was thoroughly treated—nitrate of silver was applied repeatedly to the os and cervix; all vestiges of inflammation were removed, and did not recur, at any rate, for a year or two after, for the speculum was employed to determine the fact.

Blisters were repeatedly applied to the spine, setons were introduced and kept discharging for months, without avail.

For several years she tried tonics, antispasmodics, nervine stimulants, shower baths, change of air, travel, and every remedy that promised the slightest hope of benefit; but all without effect.

Uninfluenced by all the efforts made to relieve it, her disease constantly increased in intensity, until death kindly released her from a condition most pitiable and deplorable—her mind a wreck, and her once comely person sadly changed and deformed by disease.

Had this case been treated before the nervous system had become involved, she would doubtless have avoided the epileptic affection altogether, and lived long to enjoy life and make others happy, for she was blessed with a good constitution and an excellent disposition.

Several other cases might be adduced to prove that, after the nervous system has become gravely affected, although the uterine disease may be perfectly and permanently cured, the nervous affection will continue.

These may be considered extreme cases—the result is seldom as favorable as it was in the former, or as disastrous as in the latter—most frequently after the uterine affection has been corrected, the general health has improved, and the nervous disease, although not removed, has become moderated in intensity or diminished in frequency of recurrence.

The appearance of my friend, Dr. Wm. E. Dearing, who has just taken his seat, recalls to my mind another very interesting case which I saw in consultation with him. A very intellegent and respectable married lady, from Charleston, had for some time been suffering from very severe hysterical paroxysms which threatened not only to destroy her physical health, but seriously to affect her mind. The speculum revealed inflammation of the cervix; this we regarded as the primary affection from which the nervous disease originated. Seven cauteizatrions, in about two months, removed the cervical inflammation, and with it all her nervous symptoms disappeared.

Time will not allow us to enquire farther into the effects of cervical disease on the general health—the morbid complications most frequently demanding attention and modifying treatment, are enæmia, gastric and hepatic diseases, hemorrhoids, hysteria, epilepsy and various other nervous affections.

With respect to the third point—the Treatment—there is great difference of opinion; some consider no special local treatment necessary, and look upon medical treatment alone as suffi-

cient for the cure of inflammation and ulceration of the cervix, —whilst others regard this as altogether inadequate, and believe local surgical applications essentially requisite.

For many years my reliance was almost exclusively on medical treatment, with the prescription of vaginal injections, blisters, cups, etc., to the sacrum and loins; my success was only partial and very unsatisfactory—such cases frequently relapsing, and requiring a repetition of the same remedies; whereas, since the surgical, or what has been styled the medico-chirurgical treatment of simple inflammation and ulceration of the cervix has been adopted, such cases are undertaken with more confidence and certainty of cure, than any other class of chronic diseases; their recovery being only regarded as a question of time, depending on proper perseverence on the part of the patient.

I would here ask permission to make a longer extract from Dr. West's Croonian Lectures than I am ever wont or willing to make, not only on account of the high respect I entertain for his talents and candor, but because his views are so plausible that they are well calculated to mislead any mind not strongly fortified by previous experience. No one for a moment can doubt Dr. West's sincerity; he has an eye single to truth; he desires nothing else; he is actuated by the purest and noblest motives; he has no other aim or object but to promote the cause of science and humanity; but he is unfortunately biased by preconceived opinions; or our experience and observation have, at least, led us to very different conclusions.

Dr. West says, (page 81,) "I may, however, be asked, how is it that such successful results have followed a course of treatment directed exclusively to the cure of the ulceration—that the application of caustics to the os uteri has been succeeded by the restoration of the patient to health? Now, I think it should be borne in mind that, in connection with this mode of treatment, various other measures are of necessity adopted, eminently calculated to relieve many of the slighter forms of uterine aliment. The married woman is for a time taken from her husbands's bed: the severe exertion to which either a sense of duty urged, or a love of pleasure prompted her, is discontinued; while rest in the recumbent posture places the uterus and the pelvic viscera in which the return of blood from them encounters the smallest difficulties. The condition of the bowels, probably before habitually neglected, is now carefully regulated, and the patient's diet, bland, nutritious, and unstimulating, often differs widely from that with which, while all her functions were overtaxed, she vainly

strove to tempt her failing appetite. Add to this, that the occurrence of the menstrual period is carefully watched for; that all precautions are then redoubled, and each symptom of disorder, such as on former occasions had been borne uncomplainingly, though often not without much suffering, is at once encountered by its appropriate remedy; while generally returning convalescence is met in the higher classes of society by a quiet visit to the country, or to some watering-place, in pursuit not only of gayety, but of health; and we have assembled just those conditions best fitted to remove three out of four of the disorders to which the sexual system of women is subject. But the very simplicity of these measures is a bar to their adoption; for you will bear me out in saying that the rules which common sense cannot but approve, but which seem to require nothing more than common sense to suggest them, are just those to which our patients least readily submit. The case is altered, however, when these same rules are laid down not as the means of cure themselves, but only as conditions indispensable to the success of that cauterization which, repeated once or oftener in the week, is the great remedy for the ulceration that the doctor has discovered, and which he assures his patient, and with the most perfect good faith, produces all the symptoms from which she suffers. The caustic used in these milder cases is the nitrate of silver; the surface to which it is applied is covered with a thin layer of albuminous secretion, which it is not easy to remove completely, and which serves greatly to diminish the power of the agent, while the slightly stimulating action that it nevertheless exerts seldom does harm, sometimes, I believe, does real good, though no more than might have been equally attained by vaginal injections, or other similar remedies, which the patient might have employed without the intervention of her medical attendant."

When my treatment of such diseases consisted of internal remedies, external applications and vaginal injections, without cauterization, all those measures, which Dr. West considers of themselves so potent to cure, and on which he thinks success mainly depends when caustics are used, were enjoined and enforced, as far as was at all practicable. However unpleasant an allusion to the subject might be. I was very particular in reference to the first measure; but since cauterization is employed it is deemed unnecessary to interfere with "family affairs;" it is presumed, if sensible, they will at least be temperate, and if otherwise, injunctions would not avail; moderate indulgence does not appear to exercise an injurious influence, unless it excites

pain or causes hemorrhage, which would be apt to result soon after cauterization, and which thus itself becomes, to some extent, a barrier to excess. Dr. Bennett says, in reference to inflammation and ulceration of the neck of the uterus, "it is scarcely necessary to add, that during the treatment of this form of disease, separation of the husband and wife should be strictly enforced."* This is doubtless requisite, when the stronger caustics are employed; but it is certainly not absolutely necessary, when nitrate of silver only is applied at weekly or even longer intervals.

In reference to the treatment of leucorrhœa, which is tatamount to that of inflammation or ulceration of the cervix, inasmuch as in most cases of leucorrhœa the pathological condition is inflammation of that part, with or without ulceration, Dr. Tyler Smith remarks: "Absolute separation should never be advised except for good and sufficient reasons. In leucorrhœa intercourse should only be forbidden in the worst cases. This is one objection to the use of caustics in mild cases of leucorrhœa, because it is necessary to enjoin separation while they are employed. When intercourse causes considerable pain, excites bleeding, or where the os and cervix are secreting pus, it is out of the question, but its moderate use is quite compatible with the successful treatment of profuse mucous leucorrhœa. It may be questioned whether it does not relieve the uterus of states of congestion, which occur in the unmarried, and are probably a cause of leucorrhœa in single women, or in the married who live in separation from their husbands."

According to this truly scientific and talented author, the presence of the husband might even prove beneficial. Since caustics have been employed no difference is observed in the treatment of those whose husbands are present and in that of the unmarried, or those whose husbands are absent; before their employment, the latter certainly improved faster than the former.

At present, so far from enjoining "rest in the recumbent posture," my patients are required to take exercise in the open air regularly, and systematically, as much as they can without inducing pain or much fatigue. One great advantage in the treatment by cauterization is, that it allows exercise,† which is essential to restoration of the general health and strength; without attention to which, local affections, generally, are not treated to best advantage.

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* Bennett on the Uterus, p. 264.

† See Tyler Smith, p. 194–195.

The condition of the bowels, the state of the stomach, and of the general system, the regulation of diet, &c., all received as much, if not more, attention, before, than since the adoption of cauterization. The occurrence of the menstrual period was watched with as much care, and every symptom of disorder met by its appropriate remedy as promptly heretofore as at present.

As great reliance was necessarily placed on internal remedies, nothing was neglected that might tend to improve the general health, and with it, the local condition of the uterus; no remedy was untried that might possibly, through the general system, act locally or specifically on the uterus. Vaginal injections were also as fully and faithfully administered then, as now; for they were regarded of primary importance.

When the cervix is coated by a layer of albuminous secretion, it is previously washed away by injections of cold water, or removed by a piece of cotton or soft cloth applied to that part, by the speculum forceps through the speculum, before applying the caustic, which is generally done *thoroughly*, especially when ulceration is present: the lightness or severity with which the application is made must be governed by the acuteness of the inflammation or the sensitiveness of the part: sometimes a very slight touch would do much good, when a more active cauterization would do harm.

No one would welcome with more pleasure than myself, any plan of treatment which would dispense with "the intervention of the medical attendant:" this would indeed be a great desideratum—an attainment in practice of inestimable value. Consulted by patients for supposed uterine disease, I am always happy when able to declare their apprehensions groundless and an examination unnecessary, or when an examination is indicated, that the case does not demand remedies which require to be applied by the physician himself. Nor would I ever have been willing to make applications of caustics directly to the neck of the uterus, had not all the measures, considered so efficient by Dr. West, very often proved most unsatisfactory in serious chronic cases after the most faithful trial.

The treatment Dr. West proposes is, doubtless, well calculated to remove a large portion of "the disorders to which the sexual system of woman is subject," and the most zealous advocates of cauterization admit the same in theory and carry it out in practice: but in confirmed diseases of the cervix, although it may often afford temporary alleviation, it will generally at least fail to effect a permanent cure.

In corroboration of these views, I would here make the following extract from Dr. Bennett's Review of Uterine Pathology, page 27 :

"That the local lesions and the break-down of health are connected is evident from their very general co-existence ; and that the entire removal of the local mischief is necessary for the permanent recovery of health, is a fact of which I every day become more convinced. For many years I have been living amongst a population of invalids, presenting the two conditions. Before they apply to me they have generaly exhausted, during years, all the resources of medical science, and have enjoyed every adtage that social means and the affection and kindness of relatives can contribute; but all in vain, because the local uterine mischief has been overlooked. That once discovered and remedied, they gradually rally, and are eventually restored to health. Such has been the experience of very many talented practitioners whom I could name, were it desirable. Nor can it be said, as Dr. West surmises (p. 81,) that these patient recovered—owing to the rest and the correct medical and hygienic management which was combined with the local treatment, the latter being a useless concomitant of such general treatment. All these means have generally been tried for years, in the cases to which I allude, by the most skilful practitioners, but in vain."

Elsewhere, Dr. B. speaks of the failure of general treatment as the test for the necessity of local, special or surgical treatment.

In the treatment of these cases, as of all other diseases, it is a great error to rely on any exclusive plan of treatment. When inflammation is at all acute, scarification of the cervix, externally or internally, and the direct application of leeches, are of the very first importance ; and general antiphlogistic treatment avails much; also, soothing and sedative lotions, and revellents to the sacrum and the hypogastric and inguinal regions. But when the inflammation is chronic, especially when there is ulceration, nothing, in my opinion, can be so effectual as the application of the milder caustics directly to the inflamed or ulcerated surface. I decidedly prefer the milder caustics, and believe the more intense are seldom, if ever necessary in simple inflammation or ulceration : of their employment in specific and malignant affections it is not my place to speak : of their effects in the latter, I trust we will hear from one who I know is able to do justice to the subject—my friend, Dr. J. M. Green of Macon, who has been appointed by this Society to write a report on that subject.

I prefer the solid Nit. of Silver, No. 1, in larger sticks than usually found in commerce, applied by means of the speculum-forceps, through a speculum, to the cervix externally, and introduced directly into the cervical canal. The application should be repeated every six, seven or eight days, avoiding menstrual periods, and two days before and after. M. Lisfrance says, "the caustic is not to be applied within four or five days of the appearance of the menses, and for three or four days afterward." This is certainly not necessary in using the nitrate of silver; two days before and after are amply sufficient: indeed I have known it two or three times applied during menstruation, without any unpleasant consequences, but would not advise it except under very peculiar circumstances.

For the application of the caustic a long slender pair of forceps answers best; for by it the caustic may be held at any angle, more accurately and uniformly applied to the cervix, and introduced with greater facility into the cervical canal. Ever since 1848, I have been in the habit of thus introducing the solid caustic into the cervical canal, some years before I remember to have seen it recommended by any one else.

On reference to an American edition of Dr. Bennett's work, published in 1853, which however, I had not previously read, I find he says—"If the ulceration penetrates into the cervical cavity, the solid nitrate of silver may be pushed into it as far as it will enter, or a camel hair pencil, loaded with a saturated solution, may be used in the same way. There is no fear, as we have seen, of penetrating too far, as the cervical canal is only sufficiently dilated to admit the brush, or the caustic cylinder, in the region to which inflammatory action extends. Beyond the point where inflammation ceases, the natural and healthy coarctation of the cervical canal will prevent their passing. I prefer the brush when the inflammation penetrates very far, lest the stick of caustic should break. This has occurred to me more than once, but I have never had any difficulty in extracting the fragment, either by means of the speculum forceps, the end of which I have had purposely made small, or of the uterine sound. Whence the necessity of examining the piece of caustic that has been used, when it is withdrawn, in order to see that it is entire.

In another edition, which was published in 1850, Dr. B. says: "The only caustic that can be used with advantage in inflammation of the cervix without ulceration or hypertrophy, is the nitrate of silver, which acts, however, more as an astringent than as a caustic. The solid nitrate of silver, or a strong solution,

should be applied every three, four, or five days, to the inflamed mucous membrane covering the cervix. This is also the mode of treatment to which I have principally recourse, in the first instance, in inflammation of the cavity of the uterine neck, carrying the caustic into the cervical cavity as far as it will pass."

The introduction of the solid nitrate into the cervical canal is doubtless intended, but the mode is not expressed. In Dr. Bennett's first treatise on Inflammation and Ulceration of the Cervix, a very small work, republished in this country in 1847, I do not think it is advised. I regret not having a copy for reference.

While in Philadelphia, in 1848, my friend, Professor Meigs, suggested to me the use of an instrument for cauterizing the cervical canal, very similar to Lallemand's sound for the male urethra; but finding it comparatively inefficient and unsatisfactory, I adopted the method of inserting the solid nitrate by means of the speculum forceps.*

Dr. Bennett prefers the brush when the inflammation penetrates very far, lest the stick might break; but while the solid caustic is more efficient, his apprehension is groundless, for such is the contractile power of the cervical canal, that whenever the stick breaks or becomes loose from the forceps, it is immediately extruded. In proof of this power, Dr. Gardner of New York, in his excellent work on Sterility, published last year, says, (page 26,) I passed a loose piece of nitrate of silver, about three-quarters of an inch in length into the cavity of the cervix, by means of a long pair of forceps, and as fast as it was introduced and there left, it was immediately pushed out by the contractions of the neck of the uterus, and with so much force as to be thrown out of the vagina."

I have very frequently seen it thrown from the cervical canal into the vagina or speculum; the caustic has not only the property of exciting the contractility of the cervical canal momentarily, but by repeated application it causes permanent contraction, when it has been previously rendered so patulous by inflammation as to admit easily the introduction of a finger; in these cases it has been restored to its natural size.

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* Dr. Churchill, in a new edition of his work on Diseases of Women, published since this report was read, says, "after curing the external erosion or ulceration, we must carefully examine, as far as we can, the state of the cervical canal, and if the disease has extended therein, apply the iodine or other preparations to the part by means of long fine pencils of lint," thus ignoring, or at least not directing, the more effectual method advanced above, when the nitrate of silver is used.

When the stronger caustics are employed, the canal sometimes becomes so much contracted, almost obliterated, that artificial dilatation is rendered necessary. I have never known this result from the use of nitrate of silver. Dr. Bennett, however, says artificial dilatation may be required after the use of the milder caustics, but that it is then more easily accomplished, the contraction existing in a minor degree.*

I often insert a piece of caustic an inch long, sometimes an inch and a-half and even two inches into the cervical canal, in which last instances it probably passes beyond the os internum, which perhaps is only practicable when preternaturally patulous from the extension of inflammation or ulceration through it, when also its diminished contractility renders greater caution necessary in its introduction, lest a piece might break off and slip into the cavity of the body of the uterus, which, however, I have never known to happen: when it passes beyond the os internum, it generally causes pain, sometimes requiring an opiate for its relief, but no other unpleasant symptom has ever supervened.

Dr. Green, in his able treatise, already referred to, recommends the application of caustics to the cervical canal, even during pregnancy—(page 48.)

"Ulceration of the cervix uteri may be treated with more certainty and success during the pregnant state, from a disposition in nature to cure the disease at this time and remove the inflammatory hardening, thus preparing the way for delivery.

"During pregnancy, where abortion or miscarriage is threatened, we should not wait a moment for the commencement of treatment, but apply our caustics immediately to the whole ulcerated surface, clear up the internal coarctation. Nitrate of silver is the great sedative in chronic inflammation and irritations of the mucous membrane, and prompt treatment the only thing to prevent the irritation extending through the canal to the uterine body, and provoking the premature expulsion of its contents.

"In pregnancy these cases will bear stronger applications, and more decided treatment than in the non-pregnant state."

It may be excessive and needless caution, but I concur with those who consider it safer to use no caustic stronger than nitrate of silver during pregnancy.

The satisfaction and success I have had in treating cervical

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* See pages 242, 243, last edition.

disease depend in a great degree on the adoption of this method—that is, on examining particularly into the state of the cervical canal, and in promptly treating disease when it extends therein. The external application alone will not always suffice; the external inflammation of the canal, perhaps an ulcer concealed within, may continue, with a muco-purulent or purulent discharge from the os. A case strongly illustrative of this fact occurs to me. Dr. B., from South-western Georgia, in returning from Virginia last summer, requested me to visit his lady and make a specular examination, stating that an eminent physician had treated her for inflammation of the cervix by caustic. Externally there was no inflammation, but it appeared to extend into the canal. On enquiry, I was informed that the caustic had not been applied internally. I advised him to apply it internally and give her tonics. In a few months information was received of her recovery.

In another case more recently, I was consulted by a lady from Newton county, who had been treated for inflammation of the cervix by cauterization externally. On specular examination, there was not a trace of external inflammation, while ulceration was observed to extend from the os into the cervical canal.

In some cases, on first examination, the speculum reveals inflammation or ulceration in the interior of the cervix, the external surface being free from disease.

In the intervals between the applications, astringent vaginal injections should be used two or three times daily, consisting of a solution of alumn alone, or with tannin, or in sage tea. Sulphate of zinc is also an excellent astringent. Goulard's extract, diluted, or a solution of morphine in flaxseed tea may be prescribed, when there is much irritation.

These vaginal injections have a much better effect, when administered to the patient on her knees and breast, in which position the womb, if prolapsed, returns to its natural situation, as soon as air is allowed to enter the vagina, which is in a corresponding degree lengthened and capacitated to hold a larger quantity of the lotion, which may be retained as long as desired, by the patient pressing a napkin firmly against the vulva previous to lying down; a napkin thus applied serves to retain the injection as long as desired, and to absorb it when allowed to pass away.

If too weak to assume or maintain this position, the patient's pelvis may be elevated by a pillow; for when administered in the usual way, the patient sitting or lying down, only a very small quantity enters and passes directly out, doing comparatively very little good.

Unless the vagina be permanently contracted by the long continuance of the prolapsus, whenever an injection is administered in the position indicated, the womb is replaced and the vagina submitted fully to the astringent and roborant influence of the lotion :—the patient is thus very thoroughly and generally effectually treated for the prolapsus, while undergoing treatment for the cervical disease, and the subsequent necessity for artificial support almost invariably obviated.

When the patient's general health is in all respects good, her suffering altogether local—local applications are found sufficient alone, without general treatment; but there are very few cases of long standing without some complication, demanding medical prescription.

The perfection of practice in these affections consists in the happy blending of medical and surgical treatment. Our limits will not allow us to say much on the subject of the medical treatment—it consists in the adoption of such measures as may be indicated for the removal of sympathetic or concurrent diseases in other organs and the improvement of the general health of the patient, as through the blood, and in the administration of those remedial agents which may through the system act locally on the uterus. For the fulfillment of the first indication, may be called in requisition tonics of all kinds, especially the chalybeates and vegetable bitters, mercurials, laxatives, antacids nervine stimulants, the regulation of diet, of exercise and indeed whatever is calculated to improve health and increase strength.

When dyspepsia and anæmia are present, as they often are, requiring prescription, next to properly regulated diet and exercise, the following combination of medicines will often be found very beneficial—a pill, consisting of $\frac{1}{4}$ gr. of the extract of nux vomica, 2 grs. of iron by hydrogen, and 10 grs. of the subnitrate of bismuth; one to be taken three times a day.

Nux vomica acts very beneficially as an excitant of the whole nervous system, and in promoting the peristaltic action of the intestinal canal; when prescribed merely for its effect upon the bowels, it is better to give it in combination with blue mass, rhubarb, comp. ext. of colocynth, or some other purgative which it renders efficient in comparatively small doses.

Iron by hydrogen is decidedly one of the best chalybeate preparations—the dose is very small, it is not offensive to the taste or to the stomach, and appears to enter with great facility into the circulation. As a gastric tonic, the subnitrate of bismuth, is equal, if not superior to any article in the whole Materia

Medica. It may be given with impunity, and often with great benefit, in much larger doses than stated above. When there is dyspepsia without anæmia, the same number of grains, or more, of hyoscyamus may be substituted for the iron; but the beneficial influence of iron is limited to anæmic subjects. When a bitter tonic is indicated, none answers better than Huxham's tincture of cinchona—comp. tincture of gentian, or what is better than either, a formula suggested by Dr. Robert Campbell of this city—a tincture composed of equal parts of red bark, gentian and cardamon seed; these may be prescribed alone or as vehicles for some of the preparations of iron or iodine.

The medicines that act most beneficially on the general system, and through it locally on the uterus or other organ that may be in a morbid state, are the preparations of iodine, iron, arsenic, mercury, and silver; when administered in proper doses and under proper circumstances, they influence vitality and modify nutrition so favorably, that they may with great propriety be termed eutrophics; but although very similar in some of their effects, they are different in their mode of operation. Mercury is decidedly antiphlogistic and depressing; hence its great value in all acute inflammations, whilst at the same time its influence in modifying nutrition is most palpably evinced in resolving indurations, and in causing the removal of nodes, chronic enlargements, as seen in cases of enlarged testicles, &c. Mercury, although perhaps one of the most reliable agents in hypertrophy, induration or chronic engorgement of the uterus, must be employed with great circumspection, unless the patient has considerable stamina left. The proto-iodide is in such cases decidedly the best preparation—the combination with iodine renders it more efficient in modifying nutrition, while it corrects to some extent its depressing influence; the only objection to its use is that, like other preparations, if not given with great care it will sometimes cause salivation. Another most excellent formula for the administration of mercury is Plummer's pill. Iron, iodine, arsenic and silver, in small doses—and they ought never to be prescribed in any other—are all both tonic and eutrophic. Of these the best preparations are Quenesville's metallic iron, syrup of iodide of iron, iodide of arsenic, iodide and oxide of silver, iodide of potassium, Lugol's solution, tartrate of iron and potash, Vallet's paste. It has been said, and I believe with truth, that the best effects from iron and iodine can be obtained by the conjoint prescription of tartrate of iron and potash and iodide of potassium.

The following formulæ have been frequently employed with the most satisfactory results:

℞. Iodid. Potass. . . . . ʒiij.
Tart. ferri and Potass . . . ʒvj.
Water or Comp. Tinct. Gentian . Oj.
A tablespoonful to be taken three times a day.

℞. Iodide of Silver . . . ʒi.
Ext. Hyosciami. . . . . ʒij.
Iron by Hydrogen . . . ʒiij.
Make sixty pills. One pill to be taken three times daily.

℞. Proto-iodide of Mercury . gr. xxiv.
Ext. Hyosciami. . . . gr. lxxij.
Iron by Hydrogen . . ʒiss.
Make thirty-six pills. One pill to be taken three times daily.

In some cases of leucorrhœa, supposed to depend on, or to be connected with cervical inflammation, (it being always desirable to try medical treatment, before resorting to surgical means,) the patients have been directed to take one of the following pills three times daily, and to use astringent vaginal injections,* which have caused the removal of the leucorrhœa at least, and an improvement of their general health.

℞. Sulph. Ferri,
" Zinc,
" Quiniæ, *aa* ʒij. Make sixty pills.

No particular restriction in diet appears to be necessary in general, except that it be the most digestible and nutritious, and least exciting.

The importance of exercise has been already stated.

In concluding this report, I cannot but regret not being able to do justice to so important a subject. Although restricted to its narrowest limits, the more closely it is contemplated, the more it grows in magnitude and importance, demanding for its full examination and elucidation a far more thorough and extended elaboration than this Society could possibly expect or desire on the present occasion.

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* Since this report was read, I often prescribe chlorate of potash according to the suggestion of Dr. Brown, of North Carolina. It was my intention to have added, as a supplement to this report, remarks on chlorate of potash and several other subjects, and a few illustrative cases; they may be furnished for a future number.

ORIGINAL COMMUNICATIONS.

ART. XXIII.—*Medical Notes.* By W. R. HURLEY, M.D., Knoxville, Tenn.

In presenting to the public my notes, I only design taking from my case-book such cases as I suppose might be of interest to the profession. It is my design to make them strictly practical. The field for *display*, in writing on subjects connected with medicine, is already occupied. It is by an aggregation of facts that we deduce theories in medicine, and adapt means to the accomplishment of certain ends. The notes that I propose from time to time to submit to the reader, are taken from general practice, hastily noted down in the midst of professional labor—leaving but little time to note specifically much that might be of interest. But as this will be read mostly, if not entirely, by medical men, I feel assured they will appreciate the difficulty under which I labored, and will not be too severe in their strictures, as to diction, &c. If I have erred in theory or practice, let others improve by it and avoid it. If any thing is presented of *practical* value, and a useful hint is taken, and suffering humanity benefitted, then I have attained my highest ambition.

HOUR GLASS CONTRACTION.

On the 20th of January, 1852, I was called to see Mrs. J. who was in labor,—first pregnancy. Labor a little tedious, but a natual presentation. In two hours she was delivered of a healthy male child. After seeing that all was right with the child—that the heart was beating and diaphragm moving—in other words, that "life was manifestly in motion," I turned my attention to the mother. On placing my left hand on the abdomen, to ascertain the condition of the womb, I found a firm, globe-like body, which I took to be the womb under unhealthy contraction. Frictions over the abdomen and gently grasping, produced no sensible contractile force. Examination was then made to ascertain the

true condition of the womb. It proved to be a case of *hour glass contraction.* I proceeded to deliver as I had often done before, by overcoming the contraction of the os and cervix uteri, by inserting the fingers formed into a cone-like figure. The patient complained of exceeding tenderness of the parts, and resisted every effort—and all expostulation failed to induce her to submit to the least touch. The question now arose, what must be done? Should I leave the case to the *faint* hope that nature would correct this perverted action? Certainly not. The placenta was firmly lodged in the fundus of the womb, most likely adhering to the womb. My reader, what would you have done? Friends of the patient looking on anxiously. The patient seeing the anxiety of her relatives and friends, becomes seriously alarmed. All eyes are turned to the physician, anxiously awaiting his decision. Whisperings of discontent greet his ear. The physician reverts in his mind to all the distinguished authors on the subject; all agree on one mode—*that* he has tried and failed. He may be vexed at his patient for seeming obstinacy, but that does not relieve. *This* was my condition. I adopted a course of treatment which was successful. I was thrown back upon the first principles of the science—(science of sciences.) It would not be amiss perhaps to give the course of reasoning which led me to adopt the course I did. In the treatment of uterine hemorrhage, which sometimes occurs immediately after delivery of the placenta, I had frequently introduced the hand into the womb, placed it firmly against the placental portion; the womb becoming sensible of the existence of a foreign substance within its cavity, would contract, close the mouths of bleeding vessels, and even expel the hand by its own contractile power, induced by the presence of a local excitant.

Reasoning from analogy, I concluded to introduce *something* to cause the womb to contract, and in that way deliver the afterbirth. I chose a common stomach tube. I introduced the tube, not without some difficulty in passing the stricture created by the contraction of the circular fibres. After I was satisfied that the tube touched the fundus, with a common syringe I injected

through the tube some diluted *vinegar.* Almost instantly the patient complained that I was almost killing her with pain, whereas before she remarked that she was "easy." In the course of an hour the placenta passed off, by the contractions of the womb *alone.* She recovered rapidly.

In presenting this case to the profession, I do nothing more than present the *facts.* I have never had occasion to repeat the operation; whether it would *generally* succeed, I do not know; whether the practice is founded on just principles, I leave to medical men to decide. While on the subject of placental delivery—or as the French would say, *deliverance* delivery—I would a few remarks: Ruysch, the celebrated German anatomist, taught most zealously that as the expulsion of the placenta is a natural office, it ought not to be interfered with, except upon the occurrence of such symptoms as to make such intervention *indispensable.* Extensive experience in the practice of obstetrics warrants me in saying that in *all cases*, it is best to deliver the placenta as soon as can be, without using violence. My custom is, so soon as the babe is born, the umbilical cord tied and secured, I turn at once to the mother—apply gentle friction on the abdomen, pressure or gentle grasping, which I have found almost invariably to induce contraction, and consequently early delivery—say from ten to thirty minutes. Some writers say wait one hour before attempting a delivery: but the longer it is delayed, the less the uterus is disposed to contract, and the more tender is the patient. No rudeness or over-officiousness is intended by the suggestion of early delivery, but an early attention to the delivery, by adopting means to effect it. It may be objected that there is danger in haste. There is danger in *injudicious* haste, but to the skillful accoucheur, there is no manner of danger. He must *cause* nature to act and coöperate with that action, and the sooner the better, for the safety of the patient and his own reputation.

ART. XXIV.—*Retention of Urine.* By SAMUEL C. BROWN, M.D., Tazewell, Tenn.

September 20th, 1857.—I was called upon to visit a little boy, son of Henry Soard, of Claiborne county, Tenn.; he was six years old, and had generally had good health. When I arrived, I found him in great pain; exceedingly restless, rolling from one side of the bed to the other; countenance anxious; urinous breath; at times his body covered with a heavy, clammy, urinous perspiration—at other times a skin dry and hot, with dusky-red flushes on his cheeks; tongue covered with a brown, dry coat; some stupor, with wandering of the mind; pulse exceedingly frequent; abdomen enormously enlarged. I could trace the outlines of the bladder around into the iliac fossa, and up to the umbilicus; the integument above the pubes red and hard—the least touch produced insufferable pain; penis swollen and elongated to five times its natural size and length, red and inflamed so that handling it caused much pain; prepuce elongated over the end of penis about one inch and a-half, with phymosis, so a small catheter would scarcely pass through the orifice of the prepuce; continual straining to micturate. The past history of the case was that he was taken five days before; for the first two days he had passed a stillicidum of urine occasionally, but it gradually ceased till he passed none, though continuing to strain all the time. He had been treated for two or three days for spasm of the urethra, by purging, anodynes and the warm bath, which gave no relief; an attempt had also been made to introduce the catheter, which did not succeed. After a thorough examination of the case, I attempted to introduce an elastic catheter; with some difficulty I succeeded in passing it in at the external meatus of the urethra, after working it through the phymosis; it passed down about to the membranous portion of the urethra, and stopped as if against something firm and unyielding; after using as much force as prudence dictated, I found it would not pass, and entirely withdrew it. I then took a long

silver probe and passed it in till it came against the substance which had stopped the catheter, and by working it, it imparted a grating sensation to my fingers, which satisfied me that there was an urinary calculus lodged and imbedded in the membranous portion of the urethra. Not being provided with suitable forceps to extract it, I had the patient placed on his back on a table, and held firmly there by three assistants, then took a long silver probe which had a lump at its point, and bent the lump at right angles, or formed a kind of half hook on the end of the probe, and passed it till the bent portion came against the calculus, and with considerable difficulty I passed the bent end of the probe entirely past the calculus. Some urine mixed with blood now dripped away. I then turned the probe between my thumb and finger, so as to bring the bent part of the probe against the calculus and get a bearing on it. By using some extractive force, in this way I succeeded in moving it out of the tight place in the urethra—then it did not require so much force to bring it out to the external meatus. Considerable blood and urine continued to pass all the time. It was difficult to get it through the external meatus, but by using some lever power with the broad end of a director it passed out entirely. It was followed by an enormous quantity of urine, and complete relief. It was a lithic acid calculus, as large as a small-sized pea. In a few days the patient entirely recovered.

Remarks.—The above case was published more to show the great importance of clearly ascertaining the cause of the retention of urine before treating it, than for its remarkable character. Before the swelling came on, it would have been much more easy for the physician to have removed the calculus, besides saving the patient a great deal of pain, and his friends much anxiety.

ART. XXV.—*Psoas Abscess.*. By J. P. MATHES, M.D., Strawberry Plains, Tenn.

Mr. M., the subject of this report, was by occupation a farmer, and enjoyed, up to his thirtieth year, more than an ordinary degree of physical strength and energy.

Between his thirtieth and thirty-fifth years, he suffered severely from two attacks of billious intermitting fever, which greatly undermined his constitution, and left him the occasional victim of facial neuralgia. When in his thirty-seventh year, on the 1st of September, 1855, I found him laboring under symptoms of pneumonia; an almost incessant dry cough, with pain in the region of the left lung. Under counter-irritation and a mild mercurial and expectorant treatment, the symptoms moderated; but were supervened by acute pain in the left lumbar region, which soon extended to the extremities of both lower limbs; occurring in periodic paroxysms—generally present in the forepart of each day, but felt occasionally at other times.

This distressing neuralgia seemed to beggar all description. The patient affirmed that the boring with an auger into the muscle and bone could not surpass it in intensity of suffering. I gave quinine to break up its periodic return, and sulphas morphia to relieve pain, in connection with the use of chloroform liniment. Its periodic feature gave way, but left the patient but little improved in other respects.

After the lapse of four weeks, considerable swelling was discovered in the left lumbar region, near the seat of the pain, which suggested the thought of psoas abscess. Counter-irritants were energetically applied on and near the threatened abscess; but with little or no effect. Regardless of my best efforts to arrest the morbid process, the termination of two weeks presented the abscess at maturity. Consequently, on the 13th of October, six weeks from the attack with thoracic symptoms, I made an incision with a common lancet in the thinner portion of the psoas muscle, parallel with the left kidney. A large quantity of semi-purulent matter made its escape, (probably not less than eight ounces.) The general region was then covered with a ley poultice, which required removal every few hours, to save the bed and body linen of the patient from being overspread by the excessive discharge, which continued to flow, without known intermission, for forty-eight hours. The poultice was continued, and a tonic and sustaining treatment kept up for thirty days. The discharge

then measurably ceased, and the patient put on the appearance of convalescence; at which time, (November 15th,) the case was dismissed, and nothing more heard from it until the 31st of December, a period of more than forty days. I was then called to the case again; found the labia of the orifice closed; great sickness of the stomach, with emesis, and bilious indications. A blister over the stomach, with blue mass and camphor internally, removed those symptoms for the time being—when an iodine treatment was introduced. Owing to extreme delicacy of stomach and frequent attacks of emesis, I was compelled to discontinue this treatment before enough had been taken to produce any lasting effect on the patient. Soreness again returned in the seat of the abscess, and on the 30th of January, 1856, the day preceding the one set for re-opening the abscess, the apparent union of the labia gave way, and was followed by a copious discharge, resembling in appearance that which escaped at its first opening. For a few days symptoms improved, and I again attempted to bring my patient under the influence of iodine, varying the form of administration, if possible, to adapt it to the irritability of the stomach; but signal defeat was again the speedy result. Superadded to the former distressing symptoms, were gastric pain and diarrhœa. The hitherto marked hectic glow now presented itself with such clearness as not to be overlooked by the most careless observer. Blistering, with tonics and opiates, was again reluctantly brought to bear; and for a time the patient seemed to improve; but this mock convalescence was soon interrupted by another, and still another, attack of puking and diarrhœa, which continued occasionally, until the 23rd of February, and then returned with unprecedented violence, while I was detained thirty-six hours with another case of much importance. On returning, I discovered a great change in the appearance of my already greatly emaciated patient. The hollow eye, shrunken feature, ghastly and cadaverous look, reminded me of startling changes so soon produced upon cholera patients under the ravages of that fearful disease. From the 25th to the 27th I labored assiduously to arrest the diarrhœa, with no other effect than to produce partial tranquility, and render more tolerable the conflict of expiring nature. In a practice of ten years I have not had so forcible an illustration of the idea of an animated skeleton as the last hours of this patient presented.

PART III.

EDITOR'S TABLE.

WHITE WRAPPERS AND BROWN WRAPPERS.

In our last we informed our delinquent subscribers that they would be reminded of their indebtedness by finding that number in a brown wrapper. By a mistake, a few of those who had paid also received such a token. From several we have received letters, some forwarding their past dues—others asking the amount of their indebtedness, and others again—those with whom the mistake was made—asking for information; all assuring us that they did not desire to be reckoned among the "dead heads" of medical patrons. Thank you, all of you. Will not all do likewise? This number is also sent as the last—enclosed in *white* wrappers—pure white, an emblem of purity—to all our friends who have paid, and they will moreover find the post-stamp, PAID, on the *Journal* itself—while those who are yet in arrears will find their numbers in *brown* envelopes. We thus stir up your pure minds, by way of remembrance, that the end of the year has come, and the printer wants his pay.

OUR JOURNAL.

Three times has the editor prepared an editorial on the *future* of this *Journal.* He has seriously premeditated relinquishing its publication, and then he has felt that he could not give it up. The labor connected with its management was heavy, it is true; but then he has experienced a pleasure and a gratification, which so lightened his task that he cheerfully bore it all alone. His only trial has been with the remissness of delinquent subscribers. Could he have seen for a certainty that that larger por-

tion of his subscribers who are in arrears for one, two and three years, would in a new year cancel all their indebtedness, he would have asked no more, but gone on laboring in this great and productive field. Consequently, while he was willing *to be spent* in this service, he did not think that it was required of him to *spend all* for this purpose. He therefore determined to abandon the *Journal.* Just as he was doing so, an opportunity presented itself to merge his *Journal*—as has been done elsewhere —with another; but before any announcement was made of this, which he fully intended doing, lo! again a host of confreres is presented to him, who will aid as a noble cohort, in sustaining the *Southern Journal* "at all hazards and to the last." So that it is our good pleasure to announce in this long-deferred number that as soon as arrangements can be effected—such as apportioning labor, securing a publishing house, obtaining paper, we intend, by the help of Providence, to present ourselves again before the medical public under the name of "THE EAST TENNESSEE MEDICAL TIMES," and continue its publication monthly, in royal octavo, with new type, at the former subscription price of *three dollars*—which, *and no mistake*, will be all the time, and from every subscriber, required *in advance.* Under this name the *Medical Times* looks for support and encouragement to East Tennessee physicians ffrst—then to the profession everywhere. Though a local name, yet it will, as heretofore, draw in from every source such medical information as its forty-three American and six European exchanges afford.

THE EDITOR of the *Southern Journal*, in view of the above, would inform his friends and readers that the publication of this *Journal* as the *Southern Journal of the Medical and Physical Sciences* will be suspended. We have been connected with the *Journal* ever since its beginning in 1853—and the volume which now closes is the sixth. Of the manner in which we have labored, we leave others to speak. As for ourself, we have never engaged in any work which has afforded us so much gratification. Pecuniary compensation, we have never had a cent; we have labored in this cause because we found the field open and inviting

—and it has been gratifying to us to do our part in gathering in such a harvest.

During the first years of the existence of the *Journal*, it was conducted by an association of physicians, and the plan adopted of assigning to each a separate department, seemed to meet with favor, and to work well. But during the past year it has been exclusively under the control and management of ourself as sole editor.

In concluding, therefore, our labors we wish to put upon record sundry testimonials, both from the press and from private correspondents, touching the character of the *Journal* while in our hands.

FROM OUR CORRESPONDENCE.

We throw ourselves upon the kindness of our friends, from whose letters we make the following extracts:

Dr. J. W. Martin, of Logansport, La., writes—

"Hoping you every success your merit and the value of your *Journal* so richly deserves," &c.

Dr. R. C. Craig, of Virginia writes—

"I think your *Journal* just the thing needed for this section, as we there find many cases reported that would otherwise require much labor to investigate."

Dr. J. P. Mathes, of Tennessee—

"I wish you much success in the great cause in which you are laboring."

Dr. C. Easterly, of Virginia—

"I am much pleased in reading your valuable *Journal*."

Dr. S. O. Scruggs, of Louisiana—

"In renewing an acquaintance of many years' standing, please place me as a permanent subscriber on your books. Your enterprise has my heartiest wishes."

Dr. J. R. Ray, of Alabama—

"Your *Journal* is always filled with useful matter.

Dr. T. J. Coward, of Tennessee—

"I always read your *Journal* with much interest."

Dr. R. H. Hodsden, of Tennessee—

"I like your *Journal* for the valuable scientific, as well as medical, information it always contains."

Dr. W. L. Sutton, of Kentucky—

"I hope the profession will enable you to realize something in a *pecuniary* point of view, and much in honor and usefulness."

Dr. L. H. Anderson, of Alabama—

"You have my best wishes for the success that your industry and perseverence deserve."

Dr. F. A. Cochran, of Teennesse—

"Permit me here to say that I think the profession in the South and West ought not to suffer such a medical journal as *yours* to languish for support. You may consider me a subscriber as long as *you* occupy the chair editorial, if I should live that long."

Dr. John P. Mettauer, of Virginia—

"I like your *Journal* very much, and shall be pleased to have all the back volumes from its commencement."

Dr. A. M. Stagman, of Iowa—

"The *Journal* I like very well. I find it eminently practical, except your articles on Geology, which do not interest us much out here. Give us your views on Typhoid Fever."

Dr. W. H. Byford, of Rusk Medical College, Chicago, Ill—

"From the large amount of valuable matter every number contains, I am sure it must be doing much good for medicine and the kindred sciences. Every lover of the profession cannot but wish an extension of its subscription list as an efficient means of spreading professional light abroad."

Prof. G. M. Mendenhall, of Cincinnati—

"I esteem your *Journal* very much."

Dr. J. P. Crawford, of Tennessee—

"I am pleased not only with its mechanical appearance, but also with its original and select matter. The editorials are gentlemanly and courteous, having for their highest aim the advancement of the medical profession. Such a journal ought and *can* be sustained in East Tennessee. If my influence or pen can do anything, it shall certainly be used to sustain the *Journal* in its professional courtesy and advancement of true medical science."

Dr. Felix Robertson, of Nashville, will please accept our thanks for the following cheering letter. We had tendered Dr. R. the *Journal* for 1857 as a complimentary subscriber, to which he replied—

"I have been a subscriber to your most excellent *Journal* from its commencement, and expect to continue so while I live, or it is continued. You will, therefore, pardon me for not accepting it as a compliment, for I know that medical journals cannot afford to have complimentary subscribers. Your *Journal* seems to have lost nothing in interest from the loss of your co-editors; and I have no doubt it will continue to be an interesting publication while you are its conductor. Accept my best wishes for your health and happiness."

WHAT THE PRESS SAYS.

From Cincinnati *Medical Observer*—

"We are glad to see it on our table once more, and trust its new lease on life will be vigorous and permanent."

From *North-Western Medical and Surgical Journal*, Chicago—

"It is edited with ability, and we trust it may have a more *uniform* existence in future.

From the *Medical World*, Boston—

"That excellent, well-conducted periodical, the *Southern Journal of Medical and Physical Sciences.*"

From *Southern Medical Journal*, Augusta, Ga.—

"This excellent journal—we welcome it again, and wish it uninterrupted success."

From Reese's *American Medical Gazette*—

"We wish it may be equal to its former self, when it was among our best exchanges."

From *Baptist Watchman*, of Knoxville, Tenn.—

"Aside from the ability with which it is conducted, and its value to the medical profession," &c.

From the *Virginian*, Abingdon, Va.—

"We regard it as one of the ablest works of its class in America," &c.

From the *Banner*, Columbia, S.C., (Dr. R. W. Gibbes)—

"Well filled with food for the medical mind."

From the *Illinois Baptist*—

"One of the ablest medical journals in the West, and embraces a wider range of scientific investigation than any with which we are acquainted."

From *Presbyterian Witness*, Knoxville, Tenn.—

"It is a valuable periodical to the practitioner, and always contains much that is interesting to the miscellaneous reader."

From Augusta *Chronicle & Sentinel*—

"It is truly a deserving work—fresh and interesting—abounding in a great variety of medical and scientific information. It is edited by Dr. Currey, who is a writer of experience and ability, and of high literary attainments."

From *East Tennesseean*, Maryville, Tenn.—

"Worthy of the patronage of every Southern practitioner of medicine."

To these kind wishes we return our sincerest thanks; and as we do not intend occupying the prominent position which we have heretofore done, in the publication of the new journal, we wish you at parting, the enjoyment of the choicest blessings of a benignant Providence.

MEDICAL BOOKS.

Clinical Lectures on the Diseases of Women and Children. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, University of New York. Fifth editon. New York: S. S. & Wm. Wood, 389 Broadway, New York.

We are under obligations to the publishers for the fifth edition of Dr. Bedford's Lectures. It is a high recommendation of this work that there should be such a demand for it, as to require five editions to be issued in two years. The free and happy style of the author, the aptness of his illustrations, and the success of his practice, renders this an invaluable treatise to the practitioner, whether in city or country practice.

In order to place it within reach of all who have not access to book stores, the publishers will forward it by mail, *free of postage*, to any address, on the receipt of three dollars.

We have also received from the same publishers their illustrated catalogue, in which, among many valuable publications, they publish a list of medical works, which they propose to sell at *greatly reduced prices*—any of which they will send free of postage on receipt of the price. Just to think of Andral's Clinic, 3 volumes, which has always sold at $7, offered for $4. Hunter's complete works at $6, formerly sold at $12. Hasse's Pathological Anatomy at 75 cents—and many, very many other valuable works at one-half the original price. By the way, will the publishers send us "Currie's Reports?"

Address—S. S. & W. Wood, Publishers, 389 Broadway, New York, N.Y.

Contributions to the American Medical Association: Essays on the Secretory and Excito-Secretory System of Nerves in their relations to Physiology and Pathology. By HENRY F. CAMPBELL, A.M., M.D., Professor of Anatomy, Medical College of Georgia. Philadelphia: J. B. Lippincott & Co. 1857.

We thank the author for this volume of Contributions. They are evidence of the deep research and the close reasoning of the author.

Transactions of the American Medical Association, 1857, vol. x,

has also been received, and in size and importance of papers,

compares favorably with any of the preceding volumes. Any physician remitting three dollars to Caspar Wistar, M.D., Arch street, Philadelphia, together with fifty cents in postage stamps to prepay postage, can obtain the work through mail.

Annual Report to the Legislature of South Carolina, relating to Registration of Births, Marriages and Deaths, for 1856. (From R. W. Gibbes, M.D., Registrar.)

An Address on the Scientific and Practical Medicine before the Medical Class, November, 1857. By A. H. Buchanan, M.D., Professor of Physiology and Surgical Anatomy, Nashville.

Proceedings of the Convention of the Trustees of the proposed University of the South, held in Montgomery, Ala., November, 1857. (From Rev. H. C. Lay.)

This Institution was located at *Sewanee*, on Cumberland mountain, near the tunnel of the Nashville & Chattanooga Railroad.

Medical Dictionary. By Prof. Robley Dunglison.

Just as we are going to press, we have received from those indefatigable publishers of medical works, Blanchard & Lea, of Philadelphia, Pa., the valuable Medical Dictionary of Prof. Robley Dunglison, being the *fifteenth* edition, greatly improved and enlarged. This has become a standard work, and to praise it would be as useless as to praise Webster's Dictionary—everybody knows their worth.

AMERICAN MEDICAL ASSOCIATION.

The Eleventh Annual Meeting of the American Medical Association will be held in the city of Washington, on Tuesday, May 4th, 1858.

The Secretaries of the Societies and other bodies entitled to representation in the Association, are requested to forward to the undersigned correct lists of their respective delegations as soon as they may be appointed; and it is earnestly desired by the Committee of Arrangements that the appointments be made at as early a period as possible. A. J. SEMMES, M.D.,

One of the Secretaries of the Am. Med. Asso. Washington.

OUR EXCHANGES.

In the following list we have specially noticed each Journal sent in exchange—and we will be under many obligations to the editors for such missing numbers as are indicated in connection with each, so that we may complete our sets for binding.

American Journal of Medical Sciences. ISAAC HAYS, M.D., Editor, Philadelphia. 280 pages, quarterly. $5 per annum. If paid in advance, the subscriber is entitled to receive also

The Medical News and Library. 32 pages, monthly. Blanchard & Lea, Publishers. (Missing, the number containing *the sixth form* of West's Lectures on Diseases of Women.)

Peninsular Journal of Medicine. ZINA PITCHER, M.D., and A. B. PALMER, M.D., Editors. WM. BRODIE, M.D., and E. P. CHRISTIAN, M.D., Assistant Editors, Detroit, Mich. Monthly, $2 per year. (Missing, the numbers for March, April, May, June, 1857.

Western Lancet. GEO. C. BLACKMAN, M.D., Editor, Cincinnati, Ohio. Monthly, $3. (Missing, the numbers for June and December, 1857.

Medical and Surgical Reporter. S. W. BUTLER, M.D., Editor, Burlington, N.J. Monthly, $3. (Missing, the numbers for February, July, October and December, 1857.)

Medical News and Hospital Gazette. D. W. BRICKELL, M.D., and E. D. FENNER, Editors, New Orleans, La. Monthly, $2. (Missing, the January number, 1857.)

Medical and Surgical Journal. BENNET DOWLER, M.D., Editor, New Orleans, La. 144 pages, bi-monthly, $5. (Will the publishers supply us with numbers 1, 2, 3 and 4 of vol. xiii. —to complete the volume—which were never received?)

Medical Recorder. DANIEL F. WRIGHT, M.D., Editor, Memphis, Tenn. Monthly, $2.

Journal of Medicine and Surgery. W. K. BOWLING, M.D., and P. F. EVE, M.D., Editors, Nashville, Tenn. Monthly, $3. (Missing, November number, 1857.)

Medical and Surgical Journal. Drs. W. L. LINTON and W. M. M'PHEETERS, Editors, St. Louis, Mo. Bi-monthly, $3. (Missing, November number, 1857.)

Medical Observer. Edited by Drs. MENDENHALL, MURPHY and STEVENS, Cincinnati, Ohio. Monthly, $2.

North-Western Medical and Surgical Journal. Dr. N. L. DAVIS, Editor, Chicago, Ill. (May and July numbers, 1857, missing.)

Atlanta Medical Journal. Drs. J. P. LOGAN and W. F. WESTMORELAND, Editors, Atlanta, Ga. Monthly, $3. (August, 1857, missing.)

Medical Independent. Drs. MOSES GUNN and L. G. ROBINSON, Editors, Detroit, Mich.

Southern Medical and Surgical Journal. Drs. HENRY F. and ROBERT CAMPBELL, Editors, Augusta, Ga. Monthly, $3. (Missing, numbers for September, October, November and December, 1857.)

American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum, Utica, N.Y. Quarterly.

New York Journal of Medicine. Dr. STEPHEN SMITH, Editor. Published by H. Bailliere, 290 Broadway, N.Y. Bi-monthly, $3. (Missing, March, 1856, and March and July, 1857.)

American Medical Monthly. Edited by Drs. E. H. PARKER, and J. H. DOUGLASS, New York. $3. (Number for February, 1857, missing.)

American Journal of Pharmacy. Dr. WM. PROCTOR, Editor, Philadelphia, Pa. Monthly. (November, 1857, missing.)

North American Medico-Chirurgical Review. Drs. S. D. GROSS and T. G. RICHARDSON, Editors. Published by Lindsay & Blakiston, Philadelphia, Pa. Bi-monthly, $4.

Charleston Medical Journal and Review. Dr. C. HAPPOLDT, Editor, Charleston, S.C. 144 pages, bi-monthly, $4.

Journal of Medicine. Dr. GEO. H. HUBBARD, Editor, Manchester, N.H. Monthly, $1.

Medical and Surgical Journal. Edited by Drs. M'CAW and OTIS. Published by Ritchie & Dunnavant, Richmond, Va. Monthly, $5. (March, 1857, missing.)

Medical and Surgical Journal. Edited by Drs. MORLAND and MINOT, Boston, Mass. Weekly, $3. (Numbers 1530 and 1535 missing.)

American Druggists Circular and Chemical Gazette. HENRY BINGMAN, Editor, New York. Monthly. (November, 1857, missing.)

British and Foreign Medico-Chirurgical Review. (Reprint.) S. S. Wood, Editor, New York. Quarterly, $3.

Half-Yearly Abstract of Medical Sciences. By Dr. W. H. Ranking. (Reprint.) Published January and July of each year by Lindsay & Blakiston, Philadelphia, Pa., at $2.

Braithwaite's Retrospect. (Reprint.) Published January and July of each year by Stringer & Townsend, New York, at $2.

We will gladly forward duplicates to any of our exchanges or subscribers who may require them to complete their volumes.

East Tennessee Medical Society,—The Semi-Annual Meeting of this Association will be held in the city of Knoxville, on the first Tuesday (sixth day) of April, 1858.

ESTABLISHED TWENTY-FIVE YEARS.

Pure Drugs and Medicines.

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WHOLESALE DRUGGISTS,

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WOULD respectfully call the attention of Medical practitioners to their full and complete stock of Drugs, &c., which they will sell on satisfactory terms. In our stock will be found most, if not all articles required by the medical practitioner. Our officinal preparations are all prepared in direct ac cordance with the U. S. Pharmacopœia—the latest approved formula and process being used for the non-officinal ones. Manufacturing most of the preparations we sell, we can with confidence recommend them to the profession. One of our firm, Mr. J. Jackson, is an apothecary of fifteen years experience, and gives his personal attention to this branch of our business.

We have for sale, POWERS & WEIGHTMAN'S CHEMICALS, SCHIEFELEN, HAINES & CO.'S SELECT POWDERS, HUSBAND'S ISINGLASS PLASTER, AMMONIO FERRIC ALUM, VALERIANATE OF AMMONIA, etc., etc.

☞ Orders, by mail or otherwise, will be promptly answered—and our patrons may be assured that we will do all in our power to give entire satisfaction.

M. J. BEARDEN. JNO. JACKSON.

January, 1857. 1y

NEW DRUG STORE.

EDELEN & PASSMORE,

Kennedy's Block,

GAY STREET, KNOXVILLE, TENNESSEE.

THE subscribers have just received and are now opening one of the largest and best selected stock of **Drugs, Medicines, Perfumery, Patent Medicines, etc.,** ever brought to this market. The stock has been selected with great care, and every article purchased at this house may be relied on as being all they may represent. Physicians, Dentists, dealers, and families will find it to their interest to give us a call.

Prescriptions and all preparations carefully compounded—as this department will be under the special care of of an experienced Pharmaceutist.

It is deemed unnecessary to enumerate our stock; suffice it to say, EVERY article kept by Druggists, will be found in our large assortment.

The public are respectfully invited to give us a call, and examine our stock, as it is our determination to render satifaction to all who may favor us with their patronage. May, 1857. EDELEN & PASSMORE.